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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

COMPANION PLANTING OF CORN HYBRIDS

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Companion planting of corn hybrids may turn out to be a common method of reducing the weather hazard, according to the U. S. Department of Agriculture's Research Administration. Results from tests by Federal and State corn specialists in eastern Kansas during the past season, which was a favorable one, add to the accumulating evidence in favor of this practice.

The spring was cold and wet, and the first part of August was dry. Good rains fell in late August, and prolonged favorable weather in the fall made a good crop. In each of three comparative tests in different counties many hybrids outyielded a popular open-pollinated variety. In all the groups the later hybrids yielded the best.

Looking over their results, the corn specialists said: "In making plans for corn planting in 1945, it probably will be more satisfactory to plant two tested hybrids of varying maturity, one being a full-season type and the other about 1 week to 10 days earlier, than to plant only one hybrid." They also suggested it is a good plan to use one of the planter boxes for one hybrid and one for the other. Furthermore, they advise that corn planting be spread over a period of weeks or even a month.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO
EXTENSION EDITORS

United States Department of Agriculture

GOOD PART OF DAIRY PROGRAM IS PRE-SPRING PREPARATION

- - -

In the eight-point dairy program 1945, "repair" is, as the saying goes, a 64-dollar word. This word applies especially to dairy farms, according to engineers of the U. S. Department of Agriculture's Research Administration. Dairymen are heavy users of a variety of equipment, from field machines and mechanical milkers to delivery trucks and water systems.

"The one-man responsibility in milk production is probably higher now than at any other time in recent years," says the engineers. "Because of this situation the winter repair period, always important, has now become more important than ever. Since the crop-growing months are a time of double production--of both feed crops and milk--winter is the time to get all equipment into good running order so delays will be few in spring, summer, and fall.

Winter not only is the time for repairs, but also the time to order new parts or new equipment. Also this season provides the opportunity to build new conveniences. Good examples of back-and-time-saving equipment the dairymen can build are ramps and platforms to make truck loading of cans of milk easier; chutes to move feed by gravity, and feed trucks to catch it in and also for moving ensilage; slip-through fence passages; and water tanks to save moving of cattle for watering.

"Scarcity of trucks, tires, and other automotive equipment makes it desirable to keep them in good condition through repair and care. Cooperative use of trucks and some other mechanical equipment will help provide the maximum of service and at the same time save labor.

"Barn clearing is a hard and undesirable chore that is made much easier and quicker through use of mechanical equipment in good condition. Loading manure spreaders directly and by gravity as the stable is cleaned saves much labor."

Summing up, the engineers not only reemphasize winter repair for over-busy dairymen but also convenient arrangement and cooperation in the use of scarce or expensive machines.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO
EXTENSION EDITORS

United States Department of Agriculture

GOOD FEEDING PAYS WITH YOUNG ANIMALS

- - -

Too little and too late won't do when it comes to feeding young animals--not if the animals are to mature as they should. This general observation by farmers and stockmen has good scientific backing. Scientists of the U. S. Department of Agriculture prove the point by experimental results, including a recent 7-year study with horses.

At the Department's Range Livestock Experiment Station in Montana, Thoroughbreds, Belgians, and Morgans were bred to obtain foals of light, draft, and intermediate type. Under a system of management such as is often used in the range country, the foals were born about May, weaned when about 6 months old while on pasture with their mothers, and then kept on range pasture until 5 years old. As weanlings, they got an adequate ration of hay and grain throughout the first winter, but afterwards just pasture.

The colts grew normally during the first year and a half. Beginning the following winter, however, when they had to depend on the range they lost weight. The next summer they put on weight again and grew in size. In the winter they lost again. The same fluctuations occurred in the fourth and fifth years. There was a definite tendency for this method of management to produce horses that matured at sizes and weights considerably below normal for full-fed animals of the same breeding.

So, the scientists advise, with young horses, as well as with young cattle, sheep, and hogs, if you expect to get maximum development at maturity you must feed them well during the natural period of their growth.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

(Pigs-No. 1)

PLAN NOW FOR PRODUCTION OF JUNE PIGS

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Under normal conditions, most pigs are born early in the spring and a smaller number in the fall. However, it is feasible also in many localities to breed sows for the production of June pigs, advises John H. Zeller, swine specialist of the U. S. Department of Agriculture.

Since the average gestation period of swine is 3 months, 3 weeks, and 3 days, the sows should be bred at least by the end of February in order to get June pigs. Department of Agriculture officials and the War Food Administration urge particularly that no sows already bred be marketed and that swine owners consider the feasibility of breeding all other good brood sows to produce an early summer pig crop.

Pigs farrowed during the early summer should make good growth if raised on pasture under the swine sanitation system as a safeguard against the barnyard underworld of parasites and other infections that lurk in old hog lots.

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WEEKLY NEWS SERVICE
United States Department of Agriculture
EXCLUSIVE TO EXTENSION EDITORS

(Pigs-No. 2)

BIG 1945 PIG CROP POSSIBLE FROM FEWER SOWS

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With 7 percent fewer sows than last year due to farrow in the spring season of 1945, swine owners nevertheless can raise about as many pigs this year as a year ago. This paradox in pork production, U. S. Department of Agriculture officials say, is possible if swine growers will follow improved practices, retain all bred sows still on hand, and breed other good sows by the end of February for production of June pigs where the conditions are favorable. There is urgent need for every pound of pork that can be produced.

To obtain a large spring crop of strong, vigorous pigs that will grow rapidly and produce pork efficiently, swine owners are urged to feed their sows well from now until farrowing time. John H. Zeller, swine specialist of the Department, points out that the number of pigs raised is much more important than the number born. Normally, he says, only about 6 out of every 10 pigs farrowed reach market. This is largely because many pigs are born weak and are unable to survive the hazards of early life.

One of the best ways of saving pigs is to begin by feeding the sows well. Especially during the last month of gestation, Zeller advises, see that the sow's feed contains half a pound of protein concentrates a day, and also 2 or 3 percent of a mineral mixture as supplement to the grain in a well-balanced diet. The mineral mixture should include an adequate supply of calcium, phosphorus, and salt.

Another help in saving pigs is the use of home-made electric pig brooders where electric current is available. Elsewhere, jugs of hot water or other source of mild heat will help keep newborn pigs warm during the chilly nights of late winter and early spring when the majority of spring pigs are born.

Because young pigs are often injured during the feeding time of the sow, it is also suggested that the sow be fed away from the young pigs during the first week or two. Providing guard rails in farrowing pens to keep sows from lying on their pigs and, later, the use of the familiar swine-sanitation system to protect the pig crop from parasites and disease are additional safeguards. As to June pigs, good growth may be expected when they are raised on pasture under the swine sanitation system.

Directions for installing and using pig-saving helps can be obtained from Government and State publications and from county agricultural agents. Hog-cholera immunization provides further protection.

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WEEKLY NEWS SERVICE
EXCLUSIVE TO EXTENSION EDITORS
United States Department of Agriculture

(Pigs-No. 3)

USE OF SANITATION SYSTEM BOOSTS HOG PRODUCTION

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Million of pounds of pork will be added to the wartime production from farms in the United States this spring through application by hog growers of the swine sanitation system developed by U. S. Department of Agriculture scientists during and shortly after the first World War.

The sanitation system is now well known to hog farmers. On the basis of reports from producers, the Department of Agriculture estimates that about 25 million pigs a year are raised largely according to this system. Average weight of a "sanitation" pig 4 months old is about 28 pounds more than one raised the old way. The system also reduces death losses and effects substantial savings in feed for both pigs and sows. Farmers using it report raising as many pigs from two sows as they did from three sows when using older methods.

Development of the sanitation system traces back to the other war period. Then almost every mail brought to the Department of Agriculture reports from farmers telling of young pigs, healthy at birth and for a few weeks afterwards, that stopped growing and began coughing and "thumping." Some of the pigs would die.

B. H. Ransom, chief parasitologist of the Bureau of Animal Industry, at that time, found that the dead pigs had roundworm or ascarid larvae in their windpipes and lungs. Many had inflamed intestines. He noted that almost invariably the pigs had been kept in old hog lots.

Previously, in 1916, a British medical officer stationed in Hong Kong had shown that the ascarid of man and swine follows a circuitous route through the bodies of rats and mice. Ransom determined that the swine ascarid makes a similar journey in pigs. The roundworms, he found, travel in the blood stream from the intestine to the lungs, visiting many vital organs along the way, and back again to the intestine by way of the windpipe and esophagus. Damage to the lungs explained the coughing. Examination of the soil of old hog lots showed it to be teeming with roundworm eggs that contained live embryos. Halfgrown and older pigs harbored scores of the adult roundworms in their intestines.

On the basis of their evidence, Ransom and his associates evolved the swine sanitation system which begins with a thorough cleaning of farrowing quarters with lye solution. The next steps are brushing the sows well, washing their udders with soap and water, and putting the sows in the clean pens a few days before farrowing. When the pigs are about 10 days old, together with the sows they are hauled--not driven--to clean pasture. This mode of travel keeps them from picking up infection on the way. The pigs remain on pasture for at least 4 months, after which danger from roundworms is largely past.

The plan described was first tested in 1919 in McLean County, Ill., where heavy losses of pigs had previously occurred. It proved to be 98 percent effective in protecting pigs against parasites and filth-borne diseases.

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WEEKLY NEWS SERVICE
EXCLUSIVE TO EXTENSION EDITORS
United States Department of Agriculture

FARM PONDS NOW FURNISH FISH FOR FARMERS

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A good fish pond right on the farm is a convenience added to more than 5,500 farms in the United States since the organization of soil conservation districts began in 1937.

And now these farm fish ponds furnish many families with bass and sunfish, according to Soil Conservation Service officials of the U. S. Department of Agriculture.

Ponds have been built and stocked in 45 States. Most of them were built originally for erosion control or livestock watering purposes. They grow fish as a byproduct. The ponds range in size from a quarter of an acre to 40 acres.

Farmers get guidance on the construction and management of the ponds from the Soil Conservation Service. The U. S. Fish and Wildlife Service and State game and fish commissions have provided more than 4,500,000 fingerlings to stock the farm ponds.

The secret of success with a farm fish pond as with any other farm food crop is good management, SCS officials say. Here are some suggestions they give farmers on managing a productive fish pond.

1. Keep the pond clean of such weeds as spatterdock, waterlilies, and hyacinths. Weed-filled ponds offer breeding places for mosquitoes. A heavy growth of weeds makes it hard for the big fish to find food. Weeds also make it difficult to fish.

2. Use commercial fertilizer. It enriches the water and causes a good growth of the lower forms of plant life on which insects and small fish feed. It helps to destroy the weeds.

3. Keep the fish population low. Bass and sunfish grow best when the feeding is good. Stock at least 1,500 bluegills to each 100 bass per surface acre.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

OLD OR NEW SEED CORN FOR PLANTING?

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Is old seed corn as good for planting as seed corn from last year's crop?

Generally, say U. S. Department of Agriculture scientists, the answer is "No." In some areas, however, farmers may have to choose this spring between old seed of a preferred hybrid and new seed of one not so good. In such cases older seed may be the best choice.

If such a choice must be made, the results of experiments at the Illinois Experiment Station in testing the field value of seed corn after storage for as long as 10 years may serve as a guide. These tests showed no measurable reduction in the value of seed corn planted the second year after its production. Such seed is considered as being 2 years old. The same tests showed an average reduction of 3.5 percent in yields from 3-year-old seed, and 13.6 percent from 4-year-old seed. The reduction was rapid for corn older than 4 years, reaching 81 percent for 10-year-old seed.

The yield of corn is less when old seed is used, say the scientists, because more seeds fail to grow and those that do grow often make weak plants. The failure of seeds to grow contributes more to reduction in yield than weak plants. The loss can be partly compensated for, however, by a heavier rate of planting.

Good results can be expected from older seed only when the storage conditions have been favorable--dry and cool. All lots of seed corn, particularly when more than a year old, should be tested for germination before planting.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

WHY FREEZING BEEF MAKES IT TENDER

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Through a study of the size and number of ice crystals that form in the muscle tissue of frozen beef, scientists of the U. S. Department of Agriculture have found a way of freezing that makes the meat more tender. For instance, beef frozen and stored at 20° F. was about 12 percent more tender than beef chilled at 34°; and beef frozen at -10° or -40° was still more tender -- about 18 percent more in both cases -- than the chilled beef.

Splitting of the fibers in the meat by the ice crystals is the scientist's explanation of the tenderizing effect at very low temperatures. They found no such crystals within the fibers at temperatures only a few degrees below freezing. At 0° F. the crystals become clearly evident and at still lower temperatures they were finer and more plentiful.

Freezing may also be used in combination with the familiar practice of aging, or ripening, beef at a temperature of 34° to 38° F., which checks bacterial action but enables the natural enzymes in the meat to develop and tenderize it.

Porterhouse steak ripened for 35 days after slaughter of the animal proved to be 28 percent more tender than that ripened only 5 days. Freezing beef after aging causes further tenderization, but the effect of freezing decreases as the aging period increases.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

In Me., N. H., Vt., Mass.,
R. I., Conn., N. Y., Penn.,
N. J., Del., Md., Va., W. Va.,
Ohio, Ind., Ill., Mich., Wis.,
Minn., Iowa, Ky., Mo.

FRUITFUL FORESTS OF THE NORTHEAST

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More different kinds of native edible nuts are produced in the northeastern quarter of the United States than in any other area of like size in the temperate zones. That is what the nut culturists of the U. S. Department of Agriculture say. Here is the list: Black walnut, butternut, shagbark, shellbark, red hickory, pignut, mockernut, American and beaked filberts, chinkapin (a dwarf chestnut), beechnut, and northern pecan. There were also vast forests of chestnut before they were largely destroyed by blight.

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WEEKLY NEWS SERVICE
EXCLUSIVE TO EXTENSION EDITORS
United States Department of Agriculture

In Me., N. H., Vt., Mass.,
R. I., Conn., N. Y., Penn.,
N. J., Del., Md., Va., W. Va.,
Ohio, Ind., Ill., Mich., Wis.,
Minn., Iowa, Ky., Mo.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

In Ill., Ind., Iowa, Ohio

LINCOLN LEADS AMONG SOYBEAN VARIETIES

The Lincoln soybean got its name because of its promise of stature as a crop in comparison with other improved and standard varieties in the four leading soybean States.

Now, according to the U. S. Department of Agriculture, 2 years after the Lincoln was named at a Federal-State committee meeting at the cooperative soybean laboratory at Urbana, Ill., it has fulfilled its promise and stands head and shoulders above the other varieties. Not only has the Lincoln outyielded the former leading varieties by 5 or 6 bushels to the acre, but it also is ahead in both quantity and quality of oil. The demand for seed in 1944 was ahead of supply, but there is enough seed on hand now to plant more than 500,000 acres this spring.

Results with the Lincoln have been so good that each one of the four leading soybean States--Illinois, Iowa, Indiana, and Ohio--has put out or is about to issue a publication on the variety. These States produce about 80 percent of the United States soybean crop.

The Department of Agriculture's research administration reports that more than 60 tests in Illinois, Iowa, Indiana, and Ohio show Lincoln 6 bushels an acre ahead of the two leading varieties, Illini and Dunfield. Dunfield had been "tops" as an oil producer, but the records now show Lincoln, with an average oil content of 21.2 percent, more than half a percent ahead. Lincoln is also as high as the best in iodine number--the measure of quickness in drying in paints and varnishes.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

NEW POTATOES VARIETIES ON CERTIFIED SEED LISTS

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Certified seed potatoes available to home gardeners and commercial growers in the United States this spring will include 17 varieties distributed to growers within the last 13 years under the national potato-breeding program sponsored by the U. S. Department of Agriculture with 30 States and Hawaii and Alaska cooperating.

Production of seed of these new varieties in 1944 was more than 28 percent of all the certified seed of the country. On the basis of seed, the Katahdin has become the most extensively grown late variety. In addition to the 4,430,838 bushels of this variety certified in 1944 in this country, 1,465,000 bushels were certified in the three maritime provinces of Canada.

Nearest competitor to Katahdin in the amount of certified seed produced was Green Mountain, one of the older commercial varieties. Among the new varieties, the Chippewa ranked second and fifth for all varieties. The production of certified Chippewa seed last season was 1,826,317 bushels, an amount 45 percent greater than for the previous season. The Sebago was also high among the newer varieties, certified seed production totaling 1,801,596 bushels. Other new varieties showing increases in certified seed produced were Earlaine No. 2, Pontiac, Mesaba, Sequoia, Red Warba, Erie, Mohawk, Potomac, Menominee, and Calpride, the last two being on the certified seed lists for the first time. The introductions since the program was organized in 1929 also include Warba, Houma, Pawnee, and Kasota.

All these varieties have been distributed to growers because of characters that make them of outstanding value, such as resistance to disease or to attacks by insects like leafhoppers and flea beetles. No variety is considered for distribution unless it is superior in at least one vital character to the standard varieties of a given section.

Geneticists, pathologists, horticulturists, agronomists, entomologists, and other technical workers are combining their efforts in potato breeding under the national program. The Division of Plant Exploration and Introduction of the Agricultural Research Administration helps in getting plant material with new genetic characters. Various scab-resistant varieties have, for example, been imported from Europe. Crosses between these and American varieties produced late scab-resistant sorts. A number of seedling varieties that have been bred but not yet released are highly resistant to late blight and have other characters of economic importance. One of these in 1943 yielded 615 bushels of U. S. No. 1 potatoes per acre in Maine as compared with 499 bushels for Sebago, and this last year it again outyielded Sebago significantly.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

In Kans., Okla.,
Texas, N. Mex.,
Colo., Ariz., Ark.,
Mo.

GRASS SEED PRODUCTION IN THE SOUTHWEST

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The door to a new industry in the Southwest--production of grass seeds under cultivation--is opening to farmers in this area, say forage crop specialists of the U. S. Department of Agriculture.

Already the grass seeds are assuming importance as a cash crop in the Southwest. Moreover, say the crop scientists, greater efficiency in production will be needed in the post-war period, and this will call for improved management of the better lands as well as return of impoverished land to grasses.

The production of grass seed is a relatively simple operation. The bunch grasses should be grown in cultivated rows on good, fertile, level land. Solid stands yield less than cultivated rows, and in dry years may not make seed at all. Little cultivation is required after a good, vigorous stand is obtained. Cleaning of the intervals between rows with a large sweep is about the only attention needed.

Among the grasses which the Department of Agriculture scientists say are likely to become important and which can make a cash crop when cultivated for seed production in the Southwestern States are weeping lovegrass, varieties of bluestem introduced from southwest Asia, buffalo grass, blue grama, side-oats grama, sand lovegrass, western wheatgrass, switchgrass, and Indian grass.

Improved strains of these grasses are being developed, and some are already available. In Kansas, for example, limited supplies of seed or sod of Kansas certified strains of side-oats grama, switchgrass, and buffalo grass are available. Weeping lovegrass, certified in Oklahoma, is commercially available but the supply will not meet the demand. Improved strains of the native buffalo grass have been developed at several experiment stations. At the Southern Great Plains Field Station, Woodward, Okla., the Department of Agriculture is developing improved strains of a number of the grasses. None of the seed has yet been distributed, because it is being used in extensive field trials of the grasses under actual grazing conditions.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO
EXTENSION EDITORS

United States Department of Agriculture

In Ga., Fla., Ala.,
Tenn., S. C., N. C.,
Va., Md., Ky.

DIXIGEM PEACH IN THE SOUTH

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Desirable characters that peach breeders try to put permanently into a single new variety are illustrated in Dixigem. The Dixigem is an early yellow-fleshed peach bred by the U. S. Department of Agriculture at Beltsville, Md., and selected through tests at the U. S. Horticultural Field Laboratory, Fort Valley, Ga. The Dixigem apparently is good for Georgia and possibly a larger territory.

Dixigem ripens ahead of Golden Jubilee and about with Early Rose. The fruit is described as medium-sized, ovate or somewhat egg-shaped, with light fuzz and with a bright, attractive red blush covering half the surface. The ground color is a bright yellow. The flesh is yellow, medium to firm, fine-textured, and of excellent flavor. It is almost a freestone when fully ripe and is usually semifree when at the shipping-ripe stage.

Trees of Dixigem have been vigorous and productive, but do not tend to overbear. Some thinning is usually necessary. The bud set has been medium. The blossoms are of medium size and self-fertile, and open a few days later than Elberta. Chilling requirement of the buds to break their rest period is slightly greater than that for Elberta, but much less than for buds of Early Rose.

Dixigem is recommended in Georgia especially for local market and for trial as an early shipping variety. Reports from Fort Valley are that 25,000 Dixigems are being planted this winter and nurserymen are booking many orders for next year.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

SAVING PIGS ALSO SAVES FEED

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Swine owners who raise every possible pig farrowed this year will save a large quantity of feed as well, the Department of Agriculture points out. Each pig farrowed dead represents the loss of 140 pounds of feed, which is a proportionate part of the quantity eaten by the brood sow.

Each pig farrowed alive but that dies at weaning time -- when about 10 weeks old -- costs 120 pounds additional feed. A pig that dies 8 weeks after being weaned represents a further loss of 100 pounds of feed.

During the next 8 weeks of the pig's life it consumes about 242 pounds of feed. The final fattening period, usually of 8 weeks' duration, takes about 390 pounds more. Altogether, the finished hog ready for market, has required 990 pounds of feed, or nearly half a ton. If the animal should die of hog cholera, for instance, at this final stage, all this feed is lost, so far as edible meat is concerned.

These figures are significant in wartime food production. They are based on actual records on a typical farm over a 5-year period. Of 200 pigs produced in 27 farrowings, only 112 survived to market age. The feed and health records showed that 14.3 percent of the total feed used was consumed by pigs that failed to reach the market. By giving pigs exceptional care this year, swine growers may prevent the loss of much valuable feed as well as produce more meat.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

In Okla., Tex., N. Mex.,
Colo., Kans., Idaho, N. Dak.,
S. Dak., Nebr., Wyo., Nev.,
Ariz., Utah and Mont.

MORE BEEF FROM MOWED PASTURES

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Mowed range pastures in experiments at the U. S. Department of Agriculture field station, Woodward, Okla., supported 55 percent more cattle on 17 percent less total acreage of land than did unmowed pastures.

Millions of acres of range land throughout the West are heavily infested with sagebrush and other shrubs which seriously compete with adapted grasses and reduce livestock production. The results of both field and laboratory studies at Woodward show that mowing once each year for two successive years, sometime between May 15 and July 15 but preferably in June, reduced the cover of sagebrush over 90 percent and of skunkbrush by 70 percent. Mowing also makes the remaining brush plants more palatable as winter browse, controls many weeds, and doubles the cover of grass on the land.

The mowed pastures also produced greater gains in livestock. The grade Hereford steers used in the Oklahoma test gained an average of 384 pounds per head during the season on mowed pastures, or 79 pounds more than those on the unmowed pastures.

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WEEKLY NEWS SERVICE
United States Department of Agriculture

EXCLUSIVE TO EXTENSION EDITORS

In Maine, New Hampshire,
Vermont, Massachusetts,
Rhode Island, Connecticut,
New York, Pennsylvania,
New Jersey, Delaware,
Maryland, and Ohio

INCREASING YIELDS FROM NORTHEASTERN PASTURES

- - -

In the Northeastern States establishment of the large grass and legume species in poor permanent pastures accompanied by the application of adequate quantities of lime, phosphorus, and potash will greatly increase their productivity even in the first year. This has been proved by tests made by the U. S. Regional Pasture Research Laboratory at State College, Pa., with the cooperation of the State experiment stations in Connecticut, Maine, Massachusetts, Pennsylvania, Rhode Island, and Vermont.

In order to establish the grasses and legumes successfully without too much effort and without excessive erosion, it was found necessary to weaken or kill the existing vegetation so that it would not choke out the new seeding. Disking proved more satisfactory for this purpose than plowing, as the organic matter was left on the surface to reduce erosion. Furthermore, the seedlings became established more rapidly and the plants grew better throughout the first year on the disked areas than on those plowed. Ordinary disk harrows proved too light for effective tillage. In general, the cutaway disk has been the most effective implement tested.

After the seedlings have started, proper management practices, involving controlled grazing or clipping, are required to promote establishment of the new plants during the first year and to maintain the proper balance between species in succeeding years.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

In Illinois, Kansas,
Oklahoma, Texas,
Colorado, New Mexico

GOOD NEWS FOR BROOMCORN JOHNNIES

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Scientists of the U. S. Department of Agriculture have some good news for the "broomcorn Johnnies," as the itinerant field hands who work during harvest in the broomcorn producing areas are often called.

Among the complaints of the Johnnies is the "broomcorn itch." All who have ever harvested broomcorn, say the scientists, know what they mean. The chaff enclosing broomcorn seeds bears numerous hairs that rub off readily while the brush is being cut, hauled, and threshed. Around the thresher these plant hairs cloud the air. They are extremely irritating to eyes, nostrils, and perspiring skin. Scratching for relief often causes infection, sometimes with additional complications.

The scientists sought a remedy for these conditions. Broomcorn was crossed with a brushy-headed sorghum from China that has little fuzz on the chaff. Subsequent recrossing and selection produced a broomcorn that, if widely grown on a commercial scale, should largely eliminate irritation from the broomcorn hairs.

Another complaint of the broomcorn Johnnies is the large amount of back-breaking labor required in the harvesting. Among other things, the stalks of tall or standard broomcorn must first be broken over or "tabled" to bring the brush within reach of hand cutters. The tabling operation may require 5 miles of walking backwards while breaking more than 125,000 stalks for each ton of cured brush.

The Department of Agriculture plant breeders went to work on that problem, too. Their answer came in the form of a dwarf variety called Fulltip. It has been grown in central Oklahoma to a considerable extent for 3 years with an appreciable saving in harvest labor while help has been scarce. Other dwarf varieties were unadapted to subhumid areas because aphids and moisture at the point where the brush was enclosed in the boot caused staining. With Fulltip, the scientists say, there is little staining. The improved quality of brooms from Fulltip brush also makes household tasks easier.

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United States Department of Agriculture

In Tenn., Ky., Ala.,
Miss., Va., N.C., S.C.,
Ga., Fla., Ark., La., Tex.,
Mo.

Mowing Pastures Returns $6 for $1

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Mowing bluegrass pastures to control weeds increased the amount of grazing for dairy cattle by 22 percent over that obtained from unmowed pastures at the Lewisburg, Tenn., dairy experiment station, according to a report from the Bureau of Dairy Industry, U. S. Department of Agriculture.

One of the experimental pasture plots was mowed twice during each of two seasons to control the weeds; the other plot was not mowed, and neither plot received any fertilizer or other treatment. The cost of mowing was $1.74 per acre. The mowed pasture gave a net return of $56 per acre, in terms of milk produced, and the unmowed pasture returned $46 per acre.

A return of $10 for $1.74 is almost a six to one return. Mowing controls the weeds and brush that cattle do not graze and increases the growth and spread of desirable grasses.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO
EXTENSION EDITORS

United States Department of Agriculture

In Va., N.C., S.C., Ga., Fla.,
Ala., Tenn., Ky., Miss., Tex.,
La., Ark.,Mo., Okla.

Right Combination of Grasses and Clovers Improves Pastures

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A pasture seeded to orchard grass and ladino clover produced more milk-producing feed per acre than any other combination of grasses and clovers on test at the Lewisburg, Tenn., dairy experiment station, according to a report from the Bureau of Dairy Industry, U. S. Department of Agriculture.

The mixture of orchard grass and ladino clover was sown on a good seedbed in August 1942, which had been limed and manured, and it produced good grazing the next year. In 1944, Jersey cows on this pasture produced 5,996 pounds of milk and 244 pounds of butterfat per acre, worth at current prices $171. In addition to the feed they obtained from the pasture, the cows consumed a simple grain ration at the rate of 964 pounds per acre of pasture grazed, worth $24. Deducting the cost of the grain ration and $5 for the cost of lime and manure, the net value of the milk was $142 per acre.

The next best results were obtained from a pasture treated in the same way that was seeded to a mixture of orchard grass and white clover. The net value of the milk in this case was $130 per acre.

The experimental work indicated also that bluegrass pastures can be improved by applying lime and manure and a good seed mixture to the original sod. A mixture of crimson clover, white clover, and hop clover on the original sod produced a net return of $77 per acre and a mixture of Korean lespedeza, common lespedeza, white clover, and hop clover produced a net return of $69. A plot of original sod that was not seeded produced a net return of $56 per acre.

"When pasture returns can be improved by $69 to $142 an acre by seeding suitable mixtures and applying lime and manure, more dairymen should be following these practices," say the Department of Agriculture investigators. "County agents or the State agricultural college can advise dairymen about the best fertilizer treatments and seed mixtures for local conditions."

WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

ADDITIONAL CORRECTION: Filler item on hessian fly damage in Extension Editor Release 44 (3-45) seems to have been a "comedy of errors." The word "unsuccessful" in first line of item should have read SUCCESSFUL. See also correction in same item sent you first of week changing "17 billion bushels" in second line to read 17 MILLION BUSHELS. Both corrections have been made in following copy of release; please discard your original copy.

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CAREFUL TESTS OF HYBRID CORNS

Claims made on the basis of casual observations of different varieties of hybrid corn that happen to be grown on the same farm are not likely to be dependable, say U. S. Department of Agriculture corn breeders. The merits of numerous hybrid varieties of corn are being checked, however, by various State experiment stations. Farmers can rely on these comparative tests. The experiment station test plots are grown close together and such important factors as planting date, soil productivity, and stand are made as comparable as possible and yields are reduced to a standard moisture basis.

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Insect pests are highly successful enemy saboteurs of food production. Annually, the hessian fly destroys 17 million bushels of wheat which could otherwise help feed the nation's soldiers or the starving peoples in liberated countries. Chinch bugs consume more than $15,000,000 worth of corn and wheat. Much of this food loss is preventable by use of known pest control measures.

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Sodlands make poor breeding grounds for grasshoppers. Entomologists of the U. S. Department of Agriculture say that these insects can be greatly reduced along roadsides and in field margins simply by replacing the broad-leafed weeds that usually grow in these places with nearly solid stands of grass.

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The aerosol bomb is a new development of U. S. Department of Agriculture scientists for use in the application of insecticides. It is a small metal dispenser which releases the insecticides under pressure so that they become a fine fog or mist. More than 14 million of these "bombs" were distributed in combat areas in 1943 and 1944 to help protect the armed forces against mosquitoes. They are not yet available to civilians. After the war they may help in ridding farm homes and buildings of mosquitoes and flies.

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WEEKLY NEWS SERVICE
EXCLUSIVE TO EXTENSION EDITORS
United States Department of Agriculture

GREATER MILK PRODUCTION THROUGH CALF VACCINATION

Vaccination of calves for the control of Bang's disease commonly leads, a few years later, in the case of dairy herds, to substantially greater milk yields, the Department of Agriculture has found. The gains are in terms of more milk per cow and in greater total production, partly because of less mortality among calves.

Dr. A. K. Kuttler, a veterinary official of the U. S. Bureau of Animal Industry, illustrates this point by citing a report from an Illinois dairyman who had kept comparative records. In 1936, shortly before brucellosis vaccine came into common use, the production of this dairyman's herd was 214,000 pounds of milk for the year. In 1943, it increased to 375,000 pounds, and in 1944 it exceeded 400,000 pounds.

"The important thing about this record," the dairyman said in his report, "is the fact that it was brought about by calfhood vaccination which made it possible to increase the herd in number and obtain greater production of milk per head. I have no fear, in the future, in planning and developing a breeding herd."

Brucellosis, which is primarily a disease of breeding cattle, is preventable with reasonable certainty by the use of vaccine in conjunction with sanitary precautions and good herd management. The use of a diagnostic test for detecting affected animals is likewise a part of official eradication and control measures.

In Illinois where Dr. Kuttler is the Federal inspector in charge, cooperating with State officials in brucellosis work, calf vaccinations increased from 2,228 in 1942 to 28,209 in 1944. As a further example of the interest of dairymen in calf vaccination, Kuttler reports that in Jersey County, Illinois, owners of more than 95 percent of the herds elected to use vaccination as an aid in brucellosis control.

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WEEKLY NEWS SERVICE
EXCLUSIVE TO EXTENSION EDITORS
United States Department of Agriculture

In N.C., S.C., Ga., Fla., Tenn., Ala.,
Miss., Ark., La., Tex., Okla., Mo.,
N.M., Ariz., Calif., and Va.

COTTON IMPROVEMENT THROUGH ONE-VARIETY PLAN

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Farmers in more than 2,500 communities in the South this year will again join in improving the quality of their cotton through the one-variety plan. Centered around a gin that will handle only cotton of the selected variety, these farmers are able to furnish to the market quantities of a standardized staple that will run 15 to 20 percent stronger than the mixed variety lots ordinarily produced.

The one-variety plan was stimulated in the South several years ago after research by the U.S. Department of Agriculture had demonstrated that the variety of cotton is the most important single factor in determining length and strength of fiber and strength of yarn. These studies indicated, for example, that a given variety of cotton always performed in about the same way with respect to other varieties whether grown at Stoneville, Miss., Florence, S.C., or at College Station, Tex. Moreover, the strength of yarn produced from a particular variety at various locations did not vary a great deal because even though dry weather resulted in production of a shorter fiber this cotton was also stronger and when woven into yarn the increased strength tended to compensate for the shorter length.

Under the one-variety plan the growers in a community secure from the seed breeder enough seed to plant a small percentage of the acreage in the community. This seed is increased and made available to all the growers. One plan is to start out with enough breeder seed to plant 1 percent of the acreage in the community. The second year this is increased to 10 percent and by the third year the entire acreage of the community is planted to the one variety.

By limiting his ginning to the one variety the gin operator prevents mixing of the seed and makes it easy for the community to maintain pure seed stocks. The ginner is also able to do a better job of ginning because all of the cotton is of the same character, is approximately the same length, the seed are the same size, and few adjustments of the gin are necessary from time to time in order to turn out a good grade.

In most of the cotton States the one-variety plan has been encouraged and sponsored by the State agricultural experiment station and the Extension Service. In Georgia and Alabama where the plan has been in use for about ten years, for different years that records have been kept the estimated extra income to growers has amounted to an average of from $6 to $11 per acre above what they would make under the ordinary plan of producing mixed varieties in a gin community.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

How to Control Flea Beetles in Your Garden

Wise gardeners will keep constantly on the alert for the first appearance of flea beetles this spring and take steps to protect their crops against these pests. The flea beetles attack radishes, cabbages, turnips, tomatoes, potatoes, eggplants, and beets. In some localities, they seriously damage young seedlings as they come up.

Small and dark-colored, the flea beetles are so called because, when disturbed, they jump away like fleas. They injure plants by gnawing small holes through the leaves. After a severe attack, the garden may look as if it had been blitzed by a Lilliputian army firing fine shot through every leaf. These beetles usually feed from the upperside of the leaf, but in some cases the feeding is from both surfaces.

If flea beetles are found, the treatment is simple, say U. S. Department of Agriculture entomologists. The beetles do not like a mixed diet, but a number of substances can be used either to repel or kill them. To protect young seedlings and larger plants, dust thoroughly with rotenone dust mixture, or spray or dust with bordeaux mixture, or spray with rotenone spray mixture. Rotenone mixtures both kill and repel flea beetles. The bordeaux mixture repels them, as does hydrated lime or talcum powder. The rotenone or bordeaux treatments can be used even for cabbages or on the tops of beets or on turnip tops which are to be eaten as greens. Where the leaves are not to be eaten, cryolite dust mixture or a cryolite spray mixture can be used to kill these beetles.

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WEEKLY NEWS SERVICE

United States Department of Agriculture

Story of a Good British Farmer

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Out of Great Britain recently has come the story of a British farmer who, beginning as a penniless boy in London determined to farm, has set an example that few farmers in the United States or the British Empire can equal.

Twenty years ago, according to the story as received by the U.S. Department of Agriculture, George Henderson started on a derelict farm on some of the poorest of the thin land of the Cotswolds. He still has that farm of 85 acres. It is returning him the astonishing gross income of $450 per acre. The national average for Great Britain is only $44.

According to the Office of Foreign Agricultural Relations, there has been no official report on Henderson's farm, but many agricultural experts have visited it and found no catch in the story. The books are open for all to see. The most remarkable thing about Henderson's story is that he is not a "stunt" farmer; there are no batteries of hens crammed with bought feeding stuffs, no great numbers of pigs in fattening houses kept by methods more appropriate to the factory than to the farm.

"The outstanding thing about Oathill Farm," said one expert "is its orthodox ordinariness."

Fifty-five of the acres in the farm are arable, the remaining 30 are in grass. From the start Henderson put first things first--the care of the soil and raising of health stock. Everything available has been put back into the land to raise its fertility. Even mud and leaves have been scraped from the roads and leaves have been taken from hedges to make humus. Residue from the silo and all liquid manure have also been added.

The building up of the soil has increased the yield of crops by double and treble the average for the rest of the country. Oats yield 80 bushels per acre and wheat 40. The high crop yields enable the farm to carry and feed a large herd of livestock. There are 40 to 50 pedigreed Jerseys, 1,500 head of poultry, 100 sheep, and 12 breeding sows. Compared with average stocking in the neighborhood, this is three times the average per acre for cattle, four times the average for sheep, ten times for pigs, and twenty-five times for poultry. Fancy prices for sales of cattle from the herd account for no more than $40 of the $450 per acre gross return.

"Granting that Henderson is a genius in organizing his farm output," say the British agricultural experts, "his experiences show that the simple principle of putting first soil fertility and animal health creates a virtuous circle that in the end is probably the shortest way round to big dividends."

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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

Picture of British Wartime Agriculture

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Earlier in the war when Germany was trying to starve the British out, detailed statistics about Great Britain's wartime food production were withheld for security resons but the U.S. Department of Agriculture now reports the situation so much improved that figures have been released to fill in many gaps in the picture.

According to official British sources the tilled acreage in Great Britain has increased by 65.9 percent since the beginning of the war. All tilled land in Great Britain, to feed a population of 45,000,000, amounted to only 8,813,000 acres in 1938. The increase in tilled acreage has been obtained despite an actual loss of 600,000 acres required for airfields, camps, training grounds, and industrial purposes.

Great Britain is, of course, a small country and the area of grain before the war totaled 5,308,000 acres which compares with 18,000,000 for Kansas alone in 1938. Grain production in Britain is now the highest in the recorded history of the country's 80-year-old agricultural statistics.

The plowing up of land was done mainly at the expense of permanent grassland, although considerable areas of rough grazing, moor, marsh, and even thicket also were reclaimed. The cattle population in Great Britain which of course depends largely on grazing is now at an all-time record despite the decrease in the grazing lands, and has increased during the war by 7.6 percent. More milk is being sold off farms than ever before. Moreover, this increase has taken place despite the fact that the more than 6,000,000 tons annually of the feeding stuffs the country normally imports to feed livestock have not been available.

British agriculture has had its war casualties, too. Sheep numbers, for example, have fallen nearly 6,000,000 to the lowest level in the country's history. Numbers of pigs and poultry have fallen, too, for they are particularly dependent upon commercial feeds. Numbers of both pigs and poultry have, however, recently begun to show signs of recovery.

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WEEKLY NEWS SERVICE

United States Department of Agriculture

How to Control Cutworms in Gardens

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Cutworms may announce their presence in gardens this spring or early summer, by cutting off near the ground, the stems of young plants, such as tomatoes or cabbages. This need not happen. One way to prevent it is to erect a cardboard barrier between the plant and the pest. Any lightweight cardboard about the size of a penny post card will do. Roll this into a collar around the plant after it has been set out. Make the opening of the collar about four times the size of the main stem of the plant to permit entrance of plenty of air and light. Be sure the collar extends about an inch below the ground and two inches above the soil. Such a collar also helps to protect the young plant against the sun and wind.

Cutworms are gray and brown caterpillars that do great damage to garden crops, but are rarely caught, as they work at night. They spend the winter in the soil and become active in the spring. Gardens planted on land that was in grass or weeds last year will harbor the greatest number. When the stalk becomes too tough, they climb small plants and cut off the leaves. One cutworm can cut off many young plants in a single night.

The best remedy for large gardens is poisoned bait, scattered thinly over the garden, or about the bases of the plants after they are set out. This bait, like all poisons must be kept from young children, livestock, and poultry. Directions for preparing this bait, may be obtained from the county agent, or the State Extension Service, from Leaflet No. 2, "Cutworms in the Garden, " U.S. Department of Agriculture, Washington 25, D. C. Baits also may be purchased from dealers in insecticides and seedsmen.

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WEEKLY NEWS SERVICE

United States Department of Agriculture

DDT AND THE CODLING MOTH

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The new insecticide DDT gave good results experimentally in the hot, dry season of 1944 in the control of codling moth in orchards, say U.S. Department of Agriculture entomologists. They add a word of caution, however, that it cannot safely be recommended for general use until it is further tested under a wide variety of conditions.

The new chemical is not expected to be available for general use by fruit growers this season. Enough of it is expected, however, for extensive experimentation, including several large-scale orchard tests against codling moth in different parts of the country. These tests should provide more complete information on which to base recommendations when supplies of DDT become available for general use by orchardists.

If the 1945 season is cool and wet, DDT might prove much less effective than last season. Also in 1944 various mites became excessively abundant and destructive in the apple trees sprayed experimentally with DDT. The chemical probably killed the natural enemies that normally keep the mites within bounds. The entomologists also find preparation of sprays of DDT a problem since it does not mix readily with water. Much more also needs to be learned about possible danger to consumers of fruit sprayed with DDT.

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WEEKLY NEWS SERVICE
EXCLUSIVE TO EXTENSION EDITORS
United States Department of Agriculture

NOTE: Some States now have farm housing programs under way. You may want to develop local angle.

Farm Housing An Important Post-War Problem

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Adequate housing for families on farms will be a major problem for agriculture and the nation following the war, according to a survey of the farm housing problem completed by the U. S. Department of Agriculture Interbureau Committee on Post-War Programs.

For decades there has been a growing realization of the importance of adequate housing to the health and social and material well-being of people, the committee report points out. Inadequate housing, for the most part, has been associated, however, in the public mind with cities. Little thought has been given to the rural situation. Yet the fact is that rural-farm dwellings in general are inferior to those of urban families, and the homes of hired farm workers are even less adequate than those of farm operators.

Based on the 1940 Census, about two-thirds of the houses of farm operators are not up to an acceptable standard. Where the head of the family is not a farm operator, about six out of seven houses are not acceptable. An "acceptable house," as considered by the committee, has at least five rooms and is worth at least $1,000. Many houses so classified do not have modern conveniences and comforts. About half of the unacceptable houses could be repaired but the other half should be replaced entirely.

The present condition of farm dwellings, is said by the committee to be about the same or worse than in 1940, because of shortages of materials in recent years to make repairs or construct new buildings. Fewer farm houses are needed today, however, because of an estimated 15 percent reduction in farm population since the census was taken. Also some farm families can now better afford acceptable housing because of increased incomes. Even under 1944 conditions, however, about a million farm operators alone had insufficient income to finance acceptable housing.

The Department of Agriculture committee reported insufficient income as an important reason for inadequate housing. It was estimated that a yearly gross income of $1,500, per family for the country as a whole, under 1939 conditions would be necessary for a family to finance adequate housing for themselves.

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United States Department of Agriculture

Progress In Brucellosis Control

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Since July 1, 1934, when the U.S. Department of Agriculture began a cooperative program with the States to eradicate brucellosis or contagious abortion in cattle, more than 68,000,000 blood tests have been made in more than 5 1/2 million herds. About 2,900,000 cattle have reacted to the test, indicating that they had the disease. In all, more than 17,000,000 cattle are now under official supervision.

Vaccination of calves against the disease is a new development in the campaign, having been adopted as a part of the control plan on January 1, 1941. Since that date more than a million calves have been vaccinated. Vaccinations have been made in every State, but New York leads with 181,000. Vermont has 110,000.

Progress in the eradication campaign is indicated in the number of counties now practically free of the disease; 600 counties distributed in 22 States are now accredited. All of North Carolina is now accredited as practically free of brucellosis. Virginia is second among the States in the number of counties accredited.

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Tenants Houses in Poor Condition

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Houses of tenant farmers in the United States are in much worse condition than are those of farm owners, according to the U. S. Department of Agriculture.

About one-half of the dwellings occupied by tenants should be replaced altogether, a report of the Department's Interbureau Committee on Post War Programs shows, while about one-fourth of the owner-occupied farm houses need to be replaced.

The report also shows that tenants had only about half as many refrigerators, electirc lights, and radios as farm owners, and about half as much modern plumbing.

Whether or not the tenant has adequate housing and modern conveniences depends to a great extent on the ability or willingness of the landlord to furnish them, the report points out. The amount of the tenant's net income has little to do with the kind of a house he must live in.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

Pointers on Potato Planting

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Large pototo seed pieces—1 1/2 ounces and above—generally produce stronger plants and more tubers of a desirable size, say U. S. Department of Agriculture horticulturists. Smaller pieces give good results only under the most favorable conditions

When seed of liberal size has been used, strong, sturdy sprouts and plants develop because of the larger amount of water and plant food in the larger seed pieces. The sprouts depend entirely on the plant food in the seed piece for growth and development until the roots form.

Seed-piece decay is generally more severe as the cut-surface area increases. Seed cut from large tubers therefore requires more care in handling than that cut from small tubers. A three- or four-ounce tuber cut in half is more desirable than a seed piece of the same size cut from a large tuber.

To prevent loss of moisture and seed piece decay cut seed potatoes should be allowed to cork over before planting. This corking over is best brought about by holding the cut seed in a cool (about 60° F) damp storage (85 percent humidity) for a week or ten days.

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United States Department of Agriculture

Making High-Quality Alfalfa Hay

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Quality in alfalfa hay is largely influenced by methods of hay production, say forage crop investigators of the U. S. Department of Agriculture.

Because leaf color and percentage of leaves are important in hay quality, the best method of haying will be the one that will save the most leaves and retain the green color. The highest percentage of leaves is obtained by cutting in the early stages of bloom. On the other hand, the largest yields of hay are obtained when alfalfa is cut between the one-tenth bloom and full-bloom stages. Highest yields of protein, on the other hand, are obtained when the crop is cut somewhere between these two stages.

In making hay, the shorter the time consumed in the curing process the higher the chances are of getting high-quality hay. If hay is too dry when handled, the leaves shatter badly; therefore, it is necessary to handle it when it is partially dry or slightly tough. Alfalfa hay with the leaves dry and stems slightly tough contains about 25 percent moisture and can be staked or mowed safely. Hay can be baled from the windrow with a similar amount of moisture if the bales are piled to allow for ventilation.

The best method of curing alfalfa to obtain quality is to allow the hay to wilt in the swath and finish curing in the windrow. Windrowing after wilting but before the leaves are dry enough to shatter prevents much leaf loss. Hay cured in this way will go into storage with a higher percentage of leaves, carotene, and protein.

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WEEKLY NEWS SERVICE
EXCLUSIVE TO EXTENSION EDITORS
United States Department of Agriculture

In N. Dak., S. Dak., Minn., Iowa

Sheyenne Is A Better Yielding Flax for N. D.

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Sheyenne, a new variety of seed flax, has just been announced by the U. S. Department of Agriculture's Research Administration and the North Dakota Agricultural Experiment Station as the one most likely to succeed in its particular locality in the southeastern part of the State.

Selected from a cross made by H. H. Flor of the Bureau of Plant Industry, Soils, and Agricultural Engineering, the new flax is not the best yielder under the most favorable conditions, but it averages high year in and year out.

The agronomists say Sheyenne's good yields are the result of several good qualities, notably resistance to diseases: It is immune to most races of rust, it is highly resistant to wilt, and is as tolerant to pasmo as any of the other varieties used in the North Dakota area.

Sheyenne is best adapted to the southeastern part of the State where its earliness enables it to escape the high summer temperatures and late droughts.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

In Ga.,Fla.,S.C., N.C.,Tenn., Ala., Ky.,
Miss.,La., Tex., Ark., and Okla.

Coastal Bermuda Grass, A New Hybrid for the South

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Among the latest in hybrids turned out by U. S. Department of Agriculture plant scientists--a hybrid that is rapidly making a place for itself in the South --is a new pasture grass named Coastal Bermuda.

Like other hybrids, Coastal Bermuda grass combines many desirable qualities with increased production. It is a product of grass breeding research begun at the Georgia Coastal Plain Experiment Station at Tifton, Ga., in 1936.

Coastal Bermuda has larger leaves, stems,rootstocks and runners than common Bermuda. It grows much taller and spreads faster. It produces very few seed heads and those that are produced rarely contain viable seed. One of its most desirable characteristics is its resistance to leaf spot disease that causes the leaves of common Bermuda grass to turn dark and die.

In palatability studies, when cattle were given a free choice they grazed heavily on Coastal Bermuda and very little on the common. In clipping tests the hybrid produced nearly twice as much feed as the common, and the clippings were equally nutritious pound for pound. This suggests that the new grass will produce more beef per acre than the common type, and preliminary grazing results tend to confirm this.

Coastal Bermuda also is indicated more drought resistant than the common. Scientists believe that if well established, it will survive throughout most of the common Bermuda grass belt.

The hybrid Bermuda also responds well to fertilizer. Like the high-producing cow, it yields best when well fed. When fertilized with 500 pounds of 4-8-4 and 500 pounds of nitrate of soda per acre, Coastal Bermuda has produced in four cuttings from four to six tons of hay per acre. When cut at the proper stage and well cured, the hay was comparable to timothy in palatability and nutritive value.

Because Coastal Bermuda is practically seedless, it must be established by planting rootstocks for runners. The plant breeders who developed it suggest the establishment of a small farm nursery to furnish a source of fresh planting material whenever time is available to plant it. The Coastal Bermuda may be planted from March 15 to August 15 whenever moisture conditions are favorable. Although the supply is limited, farmers in the Bermuda grass belt may get a small start of the new hybrid without cost other than transportation charges by applying to the Georgia Coastal Plain Experiment Station at Tifton, Ga.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

Feed Bees for More Honey, and Money

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Maximum honey yields, particularly in northern States, depend on the rearing of brood in quantity in each colony regardless of bad weather, say U. S. Department of Agriculture entomologists. They advise feeding the bees in early spring with trapped pollen supplemented with soybean flour. Colonies well fed will produce several times as much surplus honey as those not so well fed.

In localities where there is a June honey flow, the feeding may be done as early as desired. The pollen must, of course, be trapped in the season previous to its use. One good colony generally will provide sufficient pollen, when mixed with 75 percent soybean flour, for approximately 50 colonies. Where no bulk pollen is available, cakes made with soybean flour alone may be fed advantageously to colonies containing scattered pollen reserves in the comb, to colonies lacking pollen and facing about a ten-day period before they will be able to gather any, and when pollen collection is likely to be intermittent.

The formula for making 50 one-pound cakes of pollen and soybean flour is as follows: Moisten 4 pounds of dry pollen with 2 1/2 cups water. Add moist pollen to 30 pounds thick sugar sirup made by dissolving 20 pounds sugar in 10 pounds hot water. Add 12 pounds soybean flour to sirup and pollen mixture and stir until uniformly mixed to produce a doughlike paste.

Where the pollen supply is abundant the quantity in the mixture may be as high as 50 percent; in this case less sirup will be needed. If soybean flour alone is used, more sirup will be required. The entomologists recommend a soybean flour having a low fat content--0.5 to 2 percent--and containing approximately 50 percent protein, refined by the heat-treated expeller process rather than by the chemical-extraction process. In most cases this information is given on the bags in which the flour is packaged.

At each feeding about one pound of the paste, flattened out into a cake about one-half inch thick, is fed to each over-wintered colony of bees. The hive cover is first removed and the bees are smoked down below the top bars. The soybean-pollen cake is placed on these bars directly over the center of the bee cluster, and covered with waxed or paraffined paper to prevent drying. The inner cover is inverted to provide space for the cake. A new cake is added before the previous cake is fully consumed, a 7- to 10-day interval generally proving satisfactory.

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WEEKLY NEWS SERVICE
EXCLUSIVE TO EXTENSION EDITORS
United States Department of Agriculture

Hand Picking Is Best Remedy for Tomato Worms

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Gardeners will find hand picking to be the best control measure for the tomato worm, also known as the hornworm, say U.S. Department of Agriculture entomologists. This large green caterpillar has a wicked looking horn on its tail, but it is harmless to hand pickers.

The hornworm feeds on both tomato and tobacco plants, A large one can strip a tomato plant in two or three nights, leaving only stems. Gardeners must guard against the tomato worm twice each season as there are two broods.

Some tomato hornworms will be found with small white objects on their backs. These worms should not be destroyed. The white objects are cocoons containing small parasitic insects, which will soon come out to kill the hornworm. The tomato worm will not feed after the parasites come out of the worm. If the parasites are not destroyed, they will multiply and help reduce the numbers of the tomato worms.

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WEEKLY NEWS SERVICE

EXCLUSIVE TO EXTENSION EDITORS

United States Department of Agriculture

Butterflies Give Advance Notice of Cabbage Worms

When gardeners see white butterflies hovering over cabbage plants, they can usually expect trouble soon from a green worm. The white butterfly is the parent of the cabbage worm, the common green velvet-skinned caterpillar.

The cabbage worms often may cut the young buds of the growing cabbage, causing a total loss of the crop. Serious injury to cauliflower also results from their feeding. Sometimes they attack kale, collards, turnips, radish, and horseradish.

The butterflies that give advance notice of the impending attack by cabbage worms are active from March to October. The sight of them flying in the garden is a white signal to every experienced gardener to get prepared.

The worms appear in April, continuing to September and after. They eat the outer leaves of cabbage plants, then attack the tender leaves as they form. They hide in the young heads where they are hard to reach with a remedy. In cool weather they feed on the upper surface of the leaves where they can be more readily reached by insecticides or picked off by hand and destroyed. Hand picking repeated week after week is monotonous and hard work, but it pays dividends in providing garden produce free from worm injury.

In general, dusts give better results than sprays in cabbage worm control, say U. S. Department of Agriculture entomologists. A rotenone and pyrethrum dust mixture is the preferred treatment, or a rotenone or pyrethrum dust may be used alone. The same treatment is also good for the cabbage looper, a green striped caterpillar. The diamondback moth caterpillar, another common cabbage pest, also can be controlled by use of rotenone dust or spray.

Commercially prepared derris (rotenone) and pyrethrum dusts differ in strength. Care should be taken to use such dusts according to directions of the manufacturer. Treatments should begin when the worms first appear, and be repeated as often as necessary to protect the crop. Dusting may be necessary at weekly intervals until the crop is harvested. All infested parts of the plant must be covered thoroughly. Special care must be taken to reach the insects in the center of the plants.

Cryolite is another remedy for the cabbage worm, but it should not be used on cabbage after the head begins to form, or on cauliflower, or heading broccoli. Nor, because of harmful residues, should cryolite be used on other leafy greens, such as collards, kale, and turnip.

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United States Department of Agriculture

Controlling Mexican Bean Beetles in Your Garden

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Wise gardeners and bean growers will be on guard this summer against the Mexican bean beetle, constantly checking the undersides of the bean leaves for its first appearance. The Mexican bean beetle destroys table beans of all kinds. It also feeds on cowpeas, soybeans, and related crops when table beans become scarce. The pest is found in most States east of the Mississpie River and in Colorado, New Mexico, Arizona, western Texas, Nebraska, South Dakota, and Wyoming.

The adult Mexican bean beetle is yellow or brownish, easily identified by black spots on its back. Much more destructive than the adults are the beetle larvae, or grubs. These are orange and yellow in color, and spiny or fuzzy. The larvae feed on the undersides of leaves, eating between the veins until much of the leaf is skeletonized. They may completely strip a bean plant in one or two weeks.

The most effective remedy for Mexican bean beetles, according to U. S. Department of Agriculture entomologists, is to spray with a mixture of rotenone (cube root powder in water, applied to the undersides of the leaves. It is important to spray as soon as the beetles appear or when the eggs are first noticed on the leaves. Egg masses are orange-yellow, easily seen on the plants. A dust mixture containing rotenone powder may also be used effectively every ten days until the bean pods begins to form.

A cryolite spray may also be used to control the beetles. Treatments with this material on snap beans should stop, however, when the pods begin to form. Cryolite may leave harmful residues and should not be used on parts of the vegetable that is marketed or consumed. After the pods form, the best remedy is a spray containing rotenone or rotenone dust mixture.

Gardeners can also use the method of hand-picking the beetles and crushing the egg masses. This must be repeated almost daily to be effective. Hand picking takes more work and trouble than using insecticides, but it is cheaper and can be used when insecticides are not available.

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United States Department of Agriculture

In Minn., Ill., N.Dak., S.Dak., Nebr.,
Kans., Mont., Wyo., Colo., Idaho, Utah, Ariz.,
Wash., Oreg., Nev.,Calif.

Get Grasshopper Bait Spreaders Ready

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Entomologists of the U. S. Department of Agriculture report that grasshopper populations have increased in many areas during the last year, and are urging farmers to make frequent examinations of their land in May and June to determine whether the grasshoppers are hatching in large numbers. Losses from grasshopper attacks are largely preventable. Bait for protecting crops against grasshoppers is furnished free by the Department of Agriculture through State and local leaders. Best control is accomplished by spreading bait at the right time with suitable equipment.

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United States Department of Agriculture

Bees Visit Eight Million Flowers for One Pound of Honey

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A good colony of bees gathers about 65 pounds of pollen every year, say U. S. Department of Agriculture scientists. And to gather one pound of pollen, bees from just one hive visit over eight million flowers. That makes 520 million flowers visited by bees from a normal beehive every year. Entomologists say that the honeybee is responsible for 80 percent of all pollination, but that to take care of the pollination requirement of our enormous acreage of fruit and seed crops, more bees are needed, particularly to increase legume seed production.

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United States Department of Agriculture

Needs For Fat Salvage Intensify

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Despite increasingly encouraging reports of allied progress on European and Pacific battlefronts, needs for war goods in which used kitchen fats are an important ingredient, are growing. Indeed, the needs grow directly as our advances go forward.

Some of the war goods -- to name but a few--in which used fats play a vital part are sulfa drugs, opiates to ease pain, nylon for parachutes, military soaps, synthetic rubber.

Every effort has been made to bolster domestic production of fats and oils to meet the mounting needs, but the plain fact is that production from normal sources cannot meet the goal. By July, it is estimated that this country will be scraping the botton of the barrel in inedible fats-oils stocks -- an all-time low. At the same time, it will be the end of the year at the earliest before the Philippines can ship appreciable supplies of copra and other fats-oils products to this country.

It is urgent, therefore, that collection of used kitchen fats continue at the present high level. Such fats can supply the "missing link" to meet war and essential civilian and industrial needs. If these essential needs are to be met, 250 million pounds of used kitchen fats must be salvaged in 1945.

The needs for used fats emphasizes the importance of the salvage efforts by rural housewives since January. Used fat collections from rural areas for the week of March 19 showed a 56 percent increase over those for the week of December 4, 1944. This high rate of salvage must continue. Many rural housewives have found it convenient to keep near the stove a metal container, into which they pour drippings from the frying pan When the container is filled with fats no longer usable in the kitchen, the local butcher or grocer will pay two red ration points and up to four cents for each pound turned in.

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United States Department of Agriculture

Rural Electrification—No.1

Returning Soldiers Will Want Farms Electrified

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Many rural young men and women now in the armed forces or in war factories are more likely to go back to the farm if there is an early prospect of getting electricity with its resulting modern conveniences, say U. S. Department of Agriculture economists and engineers in pointing to probable expansion in rural electrification following the war. Moreover, people now on farms will no longer be satisfied to go without electricity in the farm home.

The importance of electricity to efficient farming became so obvious early in the war that materials highly important to war needs have been released for the electrification of more farms during the war. If the family-sized farm is to survive and to hold its own in competition with corporation farming and with post-war farming in other countries, say agricultural leaders and educators, it must be enabled to take full advantage of electricity in the production and preservation of crops and livestock management.

On farms there are many practical uses of electricity for saving time and labor for reducing operating costs and increasing farm income. Only a few need to be named. Electricity provides light and heat and power for many purposes, including refrigeration and the pumping of water. One kilowatt hour will pump 1,000 gallons of water from the average farm well. It will milk 30 cows, heat 5 gallons of water, grind 100 bushels of grain, run a tool grinder for four hours, shell 30 bushels of corn, cool 10 gallons of milk, or cut 1 ton of ensilage and elevate it into a 30-foot silo.

Running water in the house brings better sanitation and saves many steps. Refrigeration preserves food and makes better nutrition possible. The electric washer and the electric iron make the family laundry less of a chore. The radio keeps the farm family in touch with the rest of the nation and the world. Eyesight is preserved by good lighting.

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United States Department of Agriculture

Rural Electrification--No.2

NOTE: This release is in addition to the 10th birthday release currently being sent from the St. Louis REA office to State REA Cooperative managers giving State data on prospective rural electrification programs.

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Big Job Ahead in Electrifying Farms

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One of the big construction jobs in the United States after the war will be the extension of electric service to farms and rural homes.

The extent of the task ahead is indicated in a recent U. S. Department of Agriculture estimate that slightly less than 50 percent of the country's farms are now electrified and that 2,500,000 farms and about 2,800,000 other rural dwellings are still without central-station electric service.

In a recent report engineers and economists of the Department estimate that a vigorous five-year program by private utilities, cooperatives and public agencies could provide service to 3,655,000 additional rural families. Such a program would require about 2 3/4 million man-years of employment. It would involve the expenditure of about a billion dollars for line construction and expenditures by old and new rural electric customers amounting to about 750 million dollars for wiring of premises, about 700 million dollars for plumbing installations, and about 3 billion dollars for electric appliance and equipment purchases. The total of these would amount to 5 1/2 billion dollars.

The engineers point out that such a program would be a tremendous stimulus to private employment. They contend also that it would be self-liquidating, placing no burden on taxpayers, and reducing the need for tax-supported public-works programs during the reconversion and readjustment period.

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Rural Electrification—No.3

Area Coverage in Farm Electrification

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Development of electric power systems on an area-wide plan offers the only assurance that virtually all rural homes and other rural establishments, such as schools and churches, can obtain electric service at reasonable rates without subsidies or grants-in-aid, according to conclusions of a study by economists and engineers of the U. S. Department of Agriculture.

The area-coverage plan has been proved in operation in many regions. It avoids leaving gaps of unserved territory or stranded farms on the fringes. The boundaries of a service area are determined largely by geographic and physical considerations to assure compact operating systems.

The outworn practice of providing service selectively only to those farms and rural homes readily accessible from the highways, or located in densely populated areas, or promising relatively large immediate loads and ignoring other potential consumers has deprived many farms of electric service, the engineers explain. This practice of "skimming the cream" not only restricts the number of dwellings that can have service, but also results in high construction costs because of piecemeal additions from time to time.

Experience of the Rural Electrification Administration has shown that construction to serve all rather than a selected few permits mass-production methods in the development and more efficient management in the operation of local distribution systems. The net results are lower costs and availability of high-line service to all people in a rural area.

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Rural Electrification—No.4

Local Planning Needed in Electrifying Farms

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Extension of electric service to farmers and other rural users in the United States following the war will depend largely on local initiative, say U. S. Department of Agriculture engineers and economists who have studied the problem.

Under present conditions, the only way a farmer is likely to get electric high-line service to his farm is to go after it. No electric cooperative or other supplier will serve him until he has applied for service. And no one can afford to build lines in any area unless the people of the area have indicated their desire for electric service.

The location of unelectrified rural homes and other establishments is, of course, known in a general way. How soon and how vigorously after the end of the war rural electrification can proceed in any particular area, will depend primarily, however, on the vision and action of the people in the area in developing their own plans.

Because of this necessity for individual and local planning, there can be no centralized planning for rural electrification from the top down. The details of a national program for rural electrification must be based largely on the locally developed plans.

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United States Department of Agriculture

Making Compost for Use in the Garden

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Well-decomposed compost is a practical necessity nowadays to the home and market gardener. It may be prepared, say U.S. Department of Agriculture garden specialists, at moderate cost and without difficulty from fresh horse or cattle manure, poultry litter, peat, sods, disease-free plant remains, leaves and other materials.

Even hardwood leaves, straw, and similar materials may be used in making compost, but such materials should be given a preliminary decomposition before being placed in the compost pile. The use of six or eight pounds of ammonium sulphate to each half ton of these materials will materially hasten decomposition.

If unburned but finely ground limestone can be secured, it is desirable to add from three to five pounds of this material for each layer of the leaves or other material six inches in thickness, assuming that the ordinary compost pile does not exceed six feet in diameter. To this may be added two pounds of ordinary superphosphate and about a pound of muriate of potash. If wood, especially hardwood, is used as fuel, the ashes should all be saved and kept dry, and two or three pounds of the sifted wood ashes will take the place of a pound of muriate of potash. If these various chemical materials cannot readily be procured, a complete fertilizer containing not less than 5 percent nitrogen, 8 or 10 percent phosphoric acid and 4 to 6 percent potash can be used as a conditioner.

Compost should be prepared in some out-of-the-way place where water may be obtained for wetting it down. It is well to select a depression where leaching cannot occur. Pile the materials in layers in the proportions of about one part of fresh cattle or horse manure or decayed plant remains to two parts soil, preferably a bluegrass sod. The thickest layer should be only six or seven inches thick, and the pile may be as large and as high as needed to give the desired quantity. It may be in the form of a rick five or six feet high, and in that case there should be a trough or depression on the top to catch and hold rain water or water applied through the hose. A compost pile should never be allowed to dry out. The pile will rot down faster if sliced down, turned two or three times, and well moistened at frequent intervals during the course of the year or so needed to make the compost. A compost pile made this spring or early summer should be in good condition for use by next spring.

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Victory in Europe Increases Need for Bags

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Victory in Europe is increasing rather than relieving the critical shortage of agricultural bags in this country, according to the War Food Administration. Textiles for new bags are probably 20 percent short of requirements, WFA reports.

Increased shipments of wheat and other food to liberated Europeans will require large numbers of bags because European ports and transportation facilities are too badly disrupted to handle adequate bulk shipments.

In view of the critical need for all used bags, WFA officials ask farmers, farm supply dealers and others to speed the return of idle bags to the channels of trade.

"Save the sacks and sell 'em," they suggest. "Don't hold bags you don't need, lest someone be left 'holding the bag'."

The bag problem affects many people in many sections of the country. It affects industries and trades such as those dealing with feed, seed, sugar, and mill products; growers and shippers of potatoes, peanuts, beans, peas, and—in some parts of the country—wheat, oats and barley.

Conservation of bags includes (1) opening by pulling the chain stitch, not cutting, (2) protection of filled bags from rats and mice, (3) storing bags, either full or empty, in a dry place, (4) emptying and shaking bags thoroughly, hanging them over a wire until sold or re-used.

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Safety in Using Garden Insecticides

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Here are seven simple rules for safe handling of insecticides used in the garden:

1. Take extra precautions in handling and using insecticides, especially the arsenicals, calcium arsenate, lead arsenate, and paris green; fluorine compounds, such as sodium fluoride, sodium fluosilicate, and cryolite; and nicotine compounds.

2. When mixing or applying insecticides, take extreme care to keep ingredients out of the mouth and eyes. Keep the body well covered; do not spray or dust with legs or arms and shoulders bared. Wash face and hands thoroughly, after using any insecticide.

3. To avoid accumulation of residues, frequently wash clothing used in spraying operations.

4. Don't keep sodium fluoride or other household insecticides where foods are stored and see that they are distinctly marked. Plainly mark all containers in which insecticides are stored with date of purchase. Keep these tightly closed and in a specially selected place, preferably under lock and well out of reach of children.

5. Do not leave open containers in which materials are being mixed, nor set aside batches of prepared insecticides where domestic farm animals can lick them in passing. Take special care to prevent domestic animals and livestock from being poisoned through feeding on crop remnants that have been sprayed, or by licking containers, or drinking water which may have been contaminated.

6. Burn empty bags which contained insecticide materials: arsenical containers must be burned in open air, with care to avoid exposure of persons or animals to fumes. Bury unused, discarded materials at least a foot below the surface and away from water supply or drainage.

7. Guard against leaving residues of insecticides on harvested products.

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Virginia, North Carolina, South Carolina,
Tennessee, Kentucky, Georgia, Florida,
Alabama, and Mississippi

Idle Land Problem in the Southeast

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The seriousness of the idle land problem in the Southeastern states and its apparent throttling effects on agriculture are shown in a conservation needs survey of the area made by the Soil Conservation Service, U. S. Department of Agriculture

The idle acreage is scattered, for the most part, with perhaps three to 14 acres on the average farm. Now contributing little to agricultural production, and running down more each year as a result of erosion, much of this acreage was found capable of being put to safe, productive use. Of the total, amounting to almost 8,000,000 acres, nearly half was found suitable for cultivated crops, provided improved rotations and other soil conservation measures were employed.

Almost a half million acres, or six percent of the total idle land in the area, were found to be suitable for a kudzu-corn rotation in which kudzu is grown three to four years for every year of corn.

A fourth of the idle land, that which is steep and for the most part badly eroded, was found to be best adapted to growing kudzu and lespedeza sericea. Another eight percent, mostly bottomland overgrown with willows, alders, and other worthless growth, could be brushed, drained if too wet, and developed into excellent pasture. Combining the kudzu-sericea and pasture acreage, it was found that 33 percent of all the idle land would be most productive if converted back into hay or pasture production. Fourteen percent of the idle land, according to the survey, appeared best suited to trees.

Idle land on the farm is a luxury the average farmer in the Southeast can ill afford, the soil conservationists contend. He can't throw it away. The best course is to make use of it according to its capabilities. Once idle land in the Southeast is put to its best and safest uses, the owners will find themselves in a better position to adjust their farming to current demands and the current business situation.

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United States Department of Agriculture

Some Cutting Guides for Making Hay

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Early-cut alfalfa has 18 percent protein while late-cut alfalfa has only 15 percent, say U.S. Department of Agriculture specialists. Early-cut red clover is practically equal to alfalfa in protein content. Here are some "cutting guides" the hay specialists advise for producing high-grade hay of various kinds:

Cut alfalfa when from one-tenth to one-fourth in bloom. When it blooms sparingly, cut before the lower leaves begin to turn yellow and fall. In some places it may be necessary to cut alfalfa at a different stage of growth in order to control leafhoppers.

Cut red clover and alsike at the half-bloom stage.

Cut annual lespedeza when it is in full bloom and sericea lespedeza when it is from 10 to 12 inches high.

Cut soybeans when the beans are half to three-quarters developed or before; cowpeas when the first pods begin to ripen and turn yellow.

Cut timothy when it is in full bloom or before and Johnson grass when the heads are just coming out of the boot; other grasses, such as redtop and orchard grass, not later than full bloom. When cut at an early stage, these grasses are more palatable and nutritious and sometimes will make more than one cutting.

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United States Department of Agriculture

Fertilizer Changed From Pounds To Pints

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A pint may be "a pound the world around" to those who deal principally with the measurement of water. But for gardeners and farmers who frequently need to convert fertilizer measurement from weight units to volume units, the old rule in rhyme is not reasonable.

If the gardener is going to treat his soil with a chemical such as cal-nitro or with manure salts, for which the directions call for 1 pound for 100 square feet, the conversion from weight to measure is easy for these materials are of about the same density as water. Here the gardener can use a pint can to measure out a pound for his 100 square feet.

Pound-to-pint conversions for various other fertilizers have been worked out by Dr. Charles E. Kellogg, in charge of the Division of Soil Survey of the U. S. Department of Agriculture Plant Industry Station. The fertilizers are grouped according to how much they weigh in comparison with water.

Examples of the group weighing about 1 3/10 as much as water are ground limestone, granular sodium nitrate, and potassium sulfate. Here, if the application figures out to 21 ounces to 100 square feet, the pint can level full is right for that weight.

Typical of the group weighing about 9/10 as much as water are ammonium phosphate, double superphosphate, superphosphate, mixed fertilizers (5-10-5, 4-8-4, etc.) and muriate of potash. Here 15 ounces equals 1 pint.

Bonemeal, with 8/10 the weight of water, runs about 13 ounces to the pint.

Ammonium sulfate and granular ammonium nitrate are among those that weigh 7/10 as much as water. Eleven ounces is equivalent to a pint.

Cottonseed meal, sulfer and fish scrap weigh 6/10 as much as water and 10 ounces equals a pint.

Hydrated lime is about half the weight of water and 8 ounces equals a pint.

Manure moist when thrown in loose weighs about 30 pounds to the bushel and when packed runs 60 pounds to the same volume.

Dry straw and leaves packed tightly with the hands weigh around 12 1/2 pounds to the bushel.

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For the convenience of those who need to convert recommended tons or pounds of fertilizers per acre to pints, cups, or tablespoons per 100 square feet row or per 100 feet of plant the U. S. Department of Agriculture has a free leaflet (AIS-18) "How Much Fertilizer Shall I Use?" It may be obtained from the U. S. Department of Agriculture, Washington 25, D. C.

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United States Department of Agriculture

Bindweed Is Tough To Handle At Six Weeks

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The bindweed is perhaps the most persistent American weed but can be controlled through knowledge of its peculiarities. The plant soon digs in and gets on a perennial or root-reserve basis; therefore, according to F. L. Timmons of the U. S. Department of Agriculture's research administration, the plant is most vulnerable during the first month.

Timmons, carrying on studies on bindweed control at the Fort Hays Branch Experiment Station, Kansas, says, "A seedling one month old can be killed by cutting it off once at a depth of three or four inches. Younger seedlings are killed as easily as the seedlings of other weeds when uprooted or cut off." Let the little bindweed get to be six weeks old, however and it's a tough weed to handle, with a perennial root system, and cannot be killed by an ordinary cultivation four or five inches deep. From that depth the broken roots will send up new shoots just like an old plant.

So the weed workers have established a fundamental principle for the control of this pest: Once the old plants have been eradicated by systematic cultivation or other methods, kill all seedlings before they are a month old.

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United States Department of Agriculture

Vaccination Against Sleeping Sickness in Horses, Mules

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The best protection against sleeping sickness, known also as equine encephalomyelitis is vaccination, say U. S. Department of Agriculture Veterinary officials. They base their opinion on extensive reports from field veterinarians, investigations by Department scientists, and the findings by research workers in other countries. As the name, sleeping sickness, implies drowsiness is a common sympton. This often leads to prostration, and death follows in about a third of the cases.

The disease follows a seasonal course, coinciding closely with the prevalence of insects. It commonly appears in May or June, reaches its peak in midsummer or early fall, and recedes soon after heavy frosts. This evidence has incriminated mosquitoes and other biting insects as the means by which the infection spreads from sick to healthy animals, and experiments have shown that the virus can be carried in that manner.

Department scientists say that the preventive vaccine should be given well in advance of the period of greatest danger. They emphasize this point because surveys indicate that fully 75 percent of the vaccine has been applied after the disease becomes prevalent—which is often too late. Such delay explains the heavy losses sustained in some areas.

Cases of equine sleeping sickness are generally most numerous along water courses, near lakes, tidewater regions, and other places where insects abound. In other regions, the disease increases after heavy rains and during humid weather. It tends to be more common in young animals than in old ones. It occurs more often in horses than in mules, and more among pastured animals than those kept stabled.

Since 1938, vaccination has been principally by a two-dose treatment, which gives a higher degree of immunity than the single-dose method formerly used. Research has revealed two distinct types of virus, known as eastern and western, so named from the parts of the country where they first appeared. But these terms are no longer dependable guides because the eastern type has appeared as far west as Texas and Michigan, and the western virus has been found in Alabama. Protection against either virus requires use of the corresponding vaccine. For this and other reasons it is best to have a veterinarian make the determination and administer the treatment.

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United States Department of Agriculture

Sanitation System Adds 28 Pounds To Weight Of Pigs

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Hog producers of the United States can produce millions of pounds more pork by a greater use of the swine sanitation system under which about 25,000,000 pigs are already being raised annually. This number is only about a third of the total number of pigs raised in the United States in recent years.

Studies by the Bureau of Animal Industry of the Department of Agriculture have shown that an average pig raised under the sanitation system weighs about 28 pounds more when four months old than a pig raised in an old hoglot. The system also reduces death losses and saves substantial quantities of the feed of both pigs and sows. The explanation is that animals raised in clean surroundings remain practically free of parasites and hence make more rapid and economical gains.

The system was developed in McLean County, Illinois, and is used principally in the important hog-growing areas of the Central West. But the principles involved are adapted to all parts of the country and to pigs farrowed at any time of year.

The sanitation system is essentially one of good management. It consists in having pigs farrowed in clean disinfected hog houses and then raised on clean pastures or other surroundings that are free from infestations of roundworms and other injurious parasites that stunt growth. The practical value of this method of raising swine, together with a description of the details are set forth in available publications of the Department of Agriculture and many State agricultural experiment stations.

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United States Department of Agriculture

In Oregon, Washington, Idaho

New Flax Variety Promises Better Yields, Fiber

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The American fiber flax industry, increasing vigorously in Oregon during and just before the war, has benefited much from research work of agronomists and agricultural engineers. Latest reports from the U.S. Department of Agriculture's research administration call attention to the development of a new variety of fiber flax which is expected to be available for planting a large part of the United States acreage in 1946. Release of the new variety, called Cascade, marks the beginning of a fiber flax seed certification program, the first of its kind in the United States. The program will be carried on by the Oregon State College Extension Service as practically the entire American fiber flax acreage is confined to that State.

The new variety, developed in Oregon by E. G. Nelson, agronomist of the Department's Bureau of Plant Industry, Soils and Agricultural Engineering, has many desirable characteristics: high yield of straw and fiber, good percentage of fiber in the straw (an average of 15.7 percent in the past 3 years), immunity to rust, resistance to wilt disease, and tall stems.

Because the war has largely cut off the usual foreign sources of flax fiber and interfered with production there, American growers of fiber flax have found a strong demand for all their products. Now, with the anticipated return of favorable production conditions in foreign fiber flax areas, the industry here is anxious to reduce production costs. So far research workers of the Department and the Oregon station have improved several machines for harvesting and processing the crop and now the improved variety adds another advantage. This new variety is considered clearly superior to the varieties now most commonly used in the American fiber flax area.

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United States Department of Agriculture

Ways To Produce Better Livestock

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Practical ways to hasten improvement of farm livestock are suggested by Dr. W. A. Craft, director of the Regional Swine Breeding Laboratory at Ames, Iowa, where the U. S. Department of Agriculture is cooperating with State experiment stations in making good types of hogs still better. Experience in the production of about 42,000 experimental pigs is back of Dr. Craft's recommendations, including four main points, which he gave recently in more detail before a group of livestock men.

First, give more attention to production records of herds from which sires are chosen.

Second, give more attention to productive characters, such as those valuable in meat and milk production, in commercial as well as in breeding herds.

Third, in large purebred herds, form families, or lines, of high producers and cull the inferior lines as well as the inferior animals.

Fourth, avoid fads in pedigrees, color, and all other items.

While those are his main recommendations, Dr. Craft urges livestock breeders also to have clearly defined objectives. He encourages all herd owners to practice critical selection and to develop and use better purebred animals, especially sires. As a means to this end he considers inbreeding as purebreeding in high gear. Inbreeding helps in spotting and culling undesirable breeding animals. In addition it speeds the process of fixing desirable characteristics

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In Montana, Michigan, Nebraska, Idaho,
Wyoming, Colorado, Utah, California, and Ohio

When Thin Stands of Beets Are Better Than They Look

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With labor conditions as they are this season, sugar beet specialists of the U.S. Department of Agriculture are advising growers to be cautious about replanting beets that do not make a good stand from the first planting. Balancing possible gains from replanting against the expense and labor of replanting is likely to indicate that replanting probably will not pay if there is as much as half a stand in the field.

This caution comes from field tests of early-and late-planted beets at Fort Collins, Colo., and with other plots of beets planted at the right time and thinned to correspond to stands of only 70, 50, and 30 percent of a full stand. In recent years the tendency in beet growing has been to plant as few seed—particularly sheared seed—as possible to get a reasonable uniform stand. The object is to cut to a minimum the work and expense of hand thinning. This method, the beet men point out, is bound to result occasionally in a thin stand with "skips" in the row. But experience is that the beets growing at either side of a skip take advantage of the moisture and plant food from the vacant space and grow larger. A thin stand usually yields better than its appearance would indicate.

At Fort Collins early-planted stands with only 70 percent of the desired number of beets, averaged yields of about 90 percent of a full crop, and a half stand made about three-quarters of a crop. On the other hand, beets planted late—after thinness of stand was evident—did not yield a full crop. Over the three years of tests, a full stand of replanted beets did not yield quite as much, on the average, as 50 percent stands of beets from the regular plantings. Considering the expense and labor required, the plowing up and replanting because of a thin stand usually proved a losing proposition if a half stand of timely-planted beets was in the field. The Bureau of Plant Industry, Soils, and Agricultural Engineering offers these preliminary results at this time because under present conditions any possible saving of labor is of importance.

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More Marketing Trips for Agricultural Bags

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American farmers and food industries can prevent a serious shortage of textile bags even though new materials are scarce, representatives of the used bag industry have reported to the War Food Administration.

The problem can be solved by making more of the available bags travel to market more times, the used bag dealers say. They point out, however, that they are short of manpower, particularly skilled workers such as menders. Therefore, bags in good condition will move through their plants much more quickly than bags that must be repaired.

The dealers say that rats and mice are "death and destruction" to bags. They also point out that many good bags are ruined through the use of hooks and knives. Two good rules to follow are "use no hooks" and "open by pulling the chain stitch--not by cutting".

Also, many bags make only one trip because they are dragged across the floor or ground. Still others are ruined by moisture, grease and dirt.

Bags that are opened properly, and stored in a clean, dry place can be put back into use easily and quickly, the dealers point out.

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Future Problem in Dehydrated Vegetables

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Both private industry and the Government will have a serious problem in reconverting the large number of dehydration plants opened during the war to meet military and lend-lease requirements, according to a recent U.S. Department of Agriculture study of the dehydrating industry.

In 1941 there were only 15 or 20 vegetable dehydration plants in the United States; by 1944 there were about 140 plants. In the 1943-44 season these plants produced approximately 180,000,000 pounds of dehydrated potatoes, carrots, onions, sweetpotatoes, cabbage, beets, tomatoes, garlic, and rutabagas--the nine major vegetables being procured by Government agencies. Before Pearl Harbor the industry was producing many dehydrated vegetables for use in dehydrated soups, as ingredients of other foods, and as seasonings, not important as wartime products.

It is generally conceded that today's dehydrated foods are superior to those offered to consumers before the war. Whether they are good enough to compete successfully with fresh, canned, and frozen foods, however, is a question only the future can answer. The great expansion of the industry has brought a realization of the need for further improvement in processing and packaging its products to decrease deterioration during storage.

The future outlook for the dehydration industry depends mainly on the energy and resourcefulness of dehydrators in developing markets and producing quality products, the USDA study concludes.

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Benefits Of Turkey-Raising Records

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Increasing numbers of participants in the National Turkey Improvement Plan, which Federal and State poultry officials administer jointly, are using its pedigree-breeding and progeny-testing features as valuable aids in developing superior birds. In a recent report on turkey breeding, as conducted under the plan, Frank E. Moore of the U.S. Department of Agriculture cites five practical benefits from the records commonly kept. Participating turkey breeders, Moore declares, "can look for improvement in fertility, hatchability, livability, rate of maturity, and body conformation."

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Extension Editors in all of
Mississippi and Missouri Valleys from
Texas north

Soybeans A Late Cash Crop

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The soybean this year, says the U.S. Depapartment of Agriculture, is proving its usefulness as an emergency cash crop that can be planted late. Long after all hope of planting corn for a grain crop has passed because of delay resulting from an over wet spring or other adverse conditions, soybeans can be put in with hope of harvesting mature beans. There are soybean varieties, says W. J. Morse of the Department's Agricultural Research Administration, that can be planted in the Mid West as late as July 15. In the northern Mississippi Valley the principal varieties for late planting, he says, are Earlyana and Richland; in the south central Corn Belt, Dunfield, Illini, Lincoln, Mingo, and Mandell, are suitable for this purpose.

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Extension Editors in States West of Miss.

Trees Trim The Crop

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The killing competition among roots is especially noticable in dryland areas where the amount of moisture on a space determines how many plants can be grown.

An example cited by the U.S. Department of Agriculture from its experiment station at Big Spring, Texas, shows how Chinese elm trees planted along the highway limited the usable area in the adjoining field. The trees, about a rod apart, have practically prevented crop growth in a 65-foot strip ever since they were 5 or 6 years old. The land has been planted to row crops, generally sorghums, each year and has been kept clean cultivated, thus extending the reach of the tree roots.

The experimenters on dryland problems at the station have planted crops annually in this field right up to the borders, but no stand is obtained where the network of tree roots reaches. The 65-foot bare zone means two acres lost to crops alongside an 80-rod row of trees. With trees on all sides of a forty-acre field (80 by 80 rods) the loss of land to effective cropping would be eight acres or one-fifth of the field.

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War Workers, Servicemen to Return, Say Farmers

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Farmers of the United States, in a survey made among a representative group this past year by the U.S. Department of Agriculture, estimated that 75 percent of the men and women who have left agriculture for military service or industrial war work will return to farming when the war is over.

Three main reasons were given in support of this belief:

(1) Farmers want their sons and neighbors to come home:

(2) Many farmers have received letters from servicemen or friends in war-crowded industrial centers saying they would like to be home again:

(3) Some farmers expect a depression and think that many of those who are now away will have no choice but to return to farms.

Many farmers mentioned the fact, however, that new experiences obtained in the armed forces, new trades or professions learned, impatience with farm life, and war casualties will be important factors in reducing the number that can or will want to return.

It is also the belief of many farmers who were queried about the probability of servicemen and war workers returning to farms, that a majority of those who come back will want farms of their own, and that veterans especially should have a chance at farm ownership, either through low interest rates or outright grants of land.

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United States Department of Agriculture

Health Facilities for Rural Areas

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Farmers of the country are deeply concerned over the lack of medical and health facilities in rural areas, according to a survey made within the past year by the U.S. Department of Agriculture.

Four out of five farmers think more public clinics are needed in farm areas and more than 75 percent of the farmers included in the survey say they would like to subscribe to some flat-rate prepayment plan that would take care of hospital bills and also cover the costs of doctors' and nurses' services.

That there is an urgent need for doctors and health services among rural people is rather forcefully indicated by the fact that a youth, 18 and 19 years old, have shown the highest rejection rate in the Selective Service for physical, mental, and educational defects of any occupational group—41 percent compared with an average of 25 percent for other groups.

One possibility for improving the rural health situation is the amount of war surplus medical and hospital supplies that might be placed within reach of farm communities. The availability of such supplies at low cost would likely stimulate the construction of health centers where badly needed and would perhaps help to modernize and improve existing facilities. Another advantage that could well result from the allocation of war surplus medical supplies to needy rural communities would be that it would attract physicians, dentists, and nurses to such communities, particularly those demobilized from the armed services and also more graduates of ~~medical~~ schools who are just entering medical practice.

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Rural School Facilities After the War

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Improvement of rural educational facilities and increasing the usefulness of rural schools to farm communities are problems that will be given serious consideration when the war with Japan is ended, if the majority of farmers have their way about it.

Further consolidation of rural schools, for instance, is favored by over two-thirds of the Nation's farmers, according to a survey made during the past year among representative farmers by the U. S. Department of Agriculture. Most farmers believe that consolidated schools not only bring better educational advantages to their children but also provide school-community services that can be rendered only through consolidated schools. A significant minority in some areas and a majority in others feel, however, that consolidation may be disadvantageous in that it will eliminate the one-room school as a center of neighborhood activity.

The serving of hot lunches at schools is favored by four out of five farmers, the survey shows, the percentage favoring such a program being uniformly higher in areas where the greatest amount of surplus commodities has been distributed in the past, and where hot lunches are generally known to be most needed. Two of ever three farmers would like to see school libraries expaned to serve grown-ups within the school districts.

During the past few years the rural schools in many areas have maintained wartime shops where farmers could repair their own machinery. A big majority of the farmers who were asked about the desirability of continuing such shops answered in the affirmative. Some farmers who have used these school shops say they have kept their machinery in better repair since the war than ever before.

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How to Protect Stored Grain

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By following a few simple rules, farmers can prevent, or at least cut down considerably, insect damage to grain stored on the farm, say entomologists of the U.S. Department of Agriculture. Here are the rules they suggest.

Rule 1: Store grain in clean bins.. Many empty bins that look clean actually harbor thousands of hungry insects. Highly damaging grain insects burrow in the woodwork of bins in enormous numbers, and come out of hiding only when fresh grain is put in the bin. So before filling bins with new grain, sweep them out thoroughly and remove all old grain. If the bin is built of wood, it is helpful to spray the woodwork with an oil spray to kill many of the insects concealed in cracks and burrows. Directions on the kind of spray to use are given from the U.S. Department of Agriculture, Farmers' Bulletin 1811, Control of Insects Attacking Grain in Farm Storage.

Rule 2: Clean the grain of all broken kernels and floury dust before storage. Many kinds of insects cannot survive in whole, sound grain.

Rule 3: Keep the grain dry and cool. Grain-infesting insects are not active at grain temperatures below 40° F. and do not breed actively until the grain temperature reaches 70° F. or more. In States south of latitude 40° N., where it is hard to keep grain cool, emphasis must be placed on keeping it dry.

Rule 4: Do not fill the bins too full. Fill only to a point six inches below the top of the side walls, and level the surface of the grain. If you fill the bins any higher, or heap up the grain, the bins may be difficult to inspect and sample, and it will be hard to fumigate the grain effectively, if you need to fumigate.

Rule 5: Inspect farm-stored grain often. If you find an average of two or more weevils or borers to 2-1/4 pounds of wheat, the grain will grade "weevily," and if you find enough bran beetles to cause grain temperatures above normal, fumigate the grain. The best fumigants and how to apply them are described in Farmers' Bulletin 1811, previously mentioned. Further information about the insects that attack grain in farm storage is given in that bulletin. You can get it from the U.S. Department of Agriculture.

Remember, store grain in clean bins, clean it well before storage, do not fill bins too full, keep the grain dry and cool, inspect often, and fumigate if necessary.

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Farmers Like The "Kats"

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Katahdin potatoes, one of the most successful of the varieties developed in the Federal-State potato breeding program, are now known familiarly by growers and dealers under the handy name of "Kats." This potato has grown steadily in popularity since its release to growers in 1932, because of many valuable characteristics including disease-resist nce, wide adaptability, smooth skin, good quality, and reasonably good yields.

Recently a Middlesex County, New Jersey, potato farmer, Spencer Perrine, paid the "Kats" a high compliment which grew out of still another characteristic of the variety. Said farmer Perrine to a representative of the United States Department of Agriculture visiting his farm, "The Kats saved our skins last year." His explanation was this: "Our farms suffered from dry weather but the 'Kats' gave us a fair crop of No. 1 potatoes because they never set a large number of tubers and consequently larger tubers were produced with the short water supply. There was enough rain that season so that most of the tubers set grew into potatoes that classed as No. 1's. Other varieties around here, some of the new ones as well as some of the old standard varieties, start a considerable number of tubers, so when the growing season is very dry all the farmer gets is 'marbles.' "

Dr. F. J. Stevenson, in charge of the Department's cooperative potato breeding program at the Plant Industry Station, Beltsville, Md., says the Katahdin in a good-moisture year is only a fair producer compared with some other varieties, but that its success in producing No. 1 potatoes in dry years makes it what might be called a good insurance-policy variety.

After only 13 years in commercial use, the Katahdin is now the most widely grown late variety in the United States, the most popular of the approximately 22 new varieties developed through the Federal-State program.

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Trend Toward Turkey And Chicken Segregation

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A definite trend toward segregation of turkeys from other poultry on breeding farms and in hatcheries is reported by the U.S. Department of Agriculture, which has long encouraged this desirable practice as a disease-control measure. Turkeys, chickens, pigeons, in fact, all kinds of poultry should preferably be raised only with their own kind.

In a recent report on the operation of the National Turkey Improvement Plan, which includes disease control measures, Frank E. Moore of the Department's Bureau of Animal Industry declares that in some areas the desirable procedure of segregating turkeys from other feathered stock "is practically 100 percent, while in others it is far less so." "It will take time," he adds, "to accomplish this in many areas but we recommend it as a goal for every turkey breeder and hatchery."

Scientific investigations and practical experience have shown that such segregation helps prevent the spread of parasitic and other poultry diseases.

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Farm Land Prices Up to Date

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Farm land prices have advanced on the average of one percent a month for the last four years and are now higher than they were in the late twenties, a recent report made by the U.S. Department of Agriculture shows.

During the 12-month period ending July 1, 1945, prices for farm land rose 11 percent. This yearly increase has been topped only twice in the last 34 years. Values rose 15 percent during the year ended in March 1944, and 21 percent in 1919-20 when the World War 1 boom was at its peak. All this would seem to point to a sizeable land boom already under way.

Sales of farm land have risen to record numbers as prices have gone up although they have decreased somewhat during recent months. Many farms are being bought and sold again within a short time, a sign of speculative buying. In the last two years, more people went into debt to buy farms than in any year since 1920.

Besides the recent decrease in sale of land, the following are some hopeful signs: (1) In some areas, land values are still lower than before the depression; (2) a much larger proportion than usual of the farms are being bought for cash; and (3) farmers as a whole have reduced their debts during this war instead of increasing them as they did during the last war.

During the last year the U.S. Department of Agriculture asked a cross-section of the Corn Belt farmers what they thought about present land prices and the possibility of a land boom after the war. A majority said they think it would be risky to buy land now. They do not think there will be a land boom as serious as the one following World War 1. They think farmers have learned their lesson and will not make the same mistakes they made after the last war.

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What Farmers Want in the Post-war Market

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About one farmer in four is looking forward to the time when he can buy a tractor or some other piece of farm machinery after the war, according to answers of representative farmers in a recent survey made by the U.S. Department of Agriculture. Almost as many expect to buy automobiles or trucks with some of their wartime savings.

Next to new machinery, the farmers said they want new home furnishings, improvements to the farm home and other farm buildings, and electric current and equipment. Some who do not own farms said they intend to buy land after the war.

As for the cash or credit to buy the things they need in the post-war market—the farmers reported property, including money and Government bonds, valued at 83 billion dollars in January 1944. This compares with 54 billion in 1940. As of January 1945, they had 4 billion dollars in War Bonds. In general, farmers are better off financially than they have been for many years, a recent Bureau of Agricultural Economics studies show.

Some farmers said they have no specific plans for the extra money or War Bonds except maybe for their old age, or to educate their children. Many recalled what happended to farm prices and land values after World War 1, and said they plan to save for the hard times they think may come.

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United States Department of Agriculture

Dehydration No. 1

What Housewives Think of Dehydrated Foods

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Housewives may not be as prejudiced against dehydrated foods as many people have thought, the results of a survey conducted in Chicago by the U.S. Department of Agriculture showed. A large proportion of the housewives interviewed indicated a willingness to consider the dehydrated foods with competitive foods when making their purchases.

Samples of dehydrated potatoes, sweetpotatoes, beets, carrots, cranberries, milk, and eggs were given to a cross-section of Chicago housewives. Half of them said they would be willing to buy these foods after they had tried them.

Fifty-six percent of the Chicago women interviewed said their families liked all the foods served; 24 percent liked some and disliked others. A considerable number thought that women who had little time for preparation of food would be more likely to use them often. About a third said they liked dehydrated foods better than canned ones.

Most housewives who have used dehydrated foods have bought them principally as soups, the results of other surveys recently reported by a U.S. Department of Agriculture group indicate. Only about 70 out of 100 of them had ever heard of dehydrated foods. In one survey more than two-thirds of those interviewed said they liked dehydrated soups as well as or better than canned soups.

As a whole, housewives have expressed widely different opinions about dehydrated fruits and vegetables. One reason for this is the lack of standardization of the product. Another reason is that the dehydrated products have been looked upon as nonperishable as are field-dried beans. They are, however, really semi-perishable and do not keep perfectly under unsatisfactory conditions.

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Dehydration-No.2

Operating a Community Dehydration Plant

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Fruit and vegetable dehydration in community plants can be successful if the proper equipment is used and the food is correctly prepared, according to conclusions of U.S. Department of Agriculture specialists from study of an extensive test program conducted in Georgia.

The specialists further concluded that the best way to run a community plant is to work out a definite schedule in advance—peas today, carrots tomorrow, corn all next week, for instance. As the proper drying conditions vary on different foods only one thing can be dried properly at one time. Also only one or two lots can be dried in a day since it takes from four to eight hours to dry each lot.

The Georgia test program started with four community dehydrators in 1942, and was increased by 30 in 1943. It was sponsored by the Georgia Division of Vocational Agriculture Education and the Tennessee Valley Authority. Agriculture and home economics teachers were taught how to operate the dehydrators in regional meetings and they in turn taught the patrons of their schools.

Most of the families who took part in the project consider dehydrated fruits superior to dehydrated vegetables, a survey indicated. Many of them thought dehydrated apples, figs, and peaches superior or equal to the canned or sun-dried products. Sweet potatoes, peas, lima beans, okra, squash, snap beans, carrots, and corn had preference rating in the order given as to flavor and as compared with canned products. Irish potatoes, when dehydrated, were generally reported to be poor in texture and flavor.

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United States Department of Agriculture

Dehydration—No.3

Quality of Dehydrated Vegetables to Improve

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Housewives may expect a great deal of improvement in dehydrated fruits and vegetables within the next few years, according to a recent report on the dehydration industry by the U.S. Department of Agriculture's Interbureau Committee on Post-war Programs. After the war more attention can and will be given to quality, whereas quantity production has been the main consideration in filling Government and Lend-lease demands. Much has been learned during the war and new methods are being tested for possible use in the period following the war.

The importance of raw materials as they affect the quality and cost of dehydrated foods is now recognized more fully than in the early years of food dehydration. In post-war dehydration, there is every reason to believe that vegetables and fruits will be selected more carefully as to ripeness, firmness, varieties best suited for artificial drying, etc.

A new method of steam blanching is being developed. If successful, it will be a major improvement in preparing the raw materials for dehydrating. Treating them with a sulfite solution to better preserve the food value and taste is another of the new methods being tested. Standardization of dehydrated foods is now in its beginning stage. When housewives can depend on certain grades and brands of dehydrated fruits and vegetables as they do their favorite canned foods, they will likely be more willing to buy them.

The cost of dehydrated foods will be reduced as much as possible after the war to increase civilian sales. Packages to better preserve the foods during storage and appeal to customers also will be used by dehydrators to keep their product from once more being considered mainly a wartime food.

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Dehydration—No. 4

Post-war Markets for Dehydrated Foods

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From 25 to 30 million pounds of dehydrated vegetables can be sold annually in the United States after the war judging by estimates of the U.S. Department of Agriculture Interbureau Committee on Post-war Programs. In addition, 5 to 7 million pounds of seasonings, in the form of dehydrated powders and flakes, and 50 to 60 million pounds of dehydrated soups can probably be sold each year.

About 36 percent of the dehydrated vegetables sold is expected to be onions; 32 percent, potatoes; 18 percent, sweetpotatoes; and the remaining 14 percent, divided among tomatoes, greens, garlic, carrots, cabbage, and beets. Substantial amounts of the dehydrated onions, tomatoes, carrots, garlic, and greens will be used in seasonings and in soups.

The use of flakes and powders made from various vegetables has increased steadily for several years, especially by institutions and food manufacturers. Except during wars, soups and seasonings have been the principal dehydrated products sold.

Tremendous amounts of vegetables important for military and Lend-lease purposes are being produced for the Government in a greatly expanded industry. It is impossible to predict accurately how much of the improved products developed during the war can be sold to civilians under peacetime conditions. Department of Agriculture specialists point out that actual sales of all dehydrated foods in an open civilian market will depend to a great extent on the industry's sales promotion efforts and its success in devising inexpensive but effective retail packages.

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Medical Equipment and Supplies From Surplus War Property

Rural communities that want to obtain medical equipment and supplies from stocks of surplus war property that are expected to be available soon are advised by the Department of Agriculture to start specific action now. The USDA Inter-bureau Committee on Post-war Programs has prepared recommendations for a program of cooperation among the rural communities, public health agencies, and surplus disposal offices.

To help assure that these war surplus supplies and equipment are placed where they will do the most good the committee suggests that a policy committee for each State representing the interests of consumer groups, public agencies, and professional health groups; and State executive committees, usually the State Health Departments, to carry out the policies and plans of the state policy committee—be designated. An overall national policy committee also is suggested--to be under the leadership of the U. S. Public Health Service, with representatives from the Departments of Agriculture and Labor, other interested Government agencies, and national labor, farm, and women's organizations.

The Surplus Property Act specifies that these supplies be used for the public good. The policy of the Surplus Property Board is to make goods available to communities at prices based on need rather than on cost to the Government. This pricing policy applies especially to those communities now without health facilities of any kind. In this way, surplus goods will be of service to people who are not part of the normal market and so should tend to increase rather than interfere with the market of medical equipment manufacturers.

Hospitals that have some plan through which their services are extended as widely as possible, will receive preferred treatment in a disposal program.

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Where the provision of this medical equipment will help attract doctors to communities badly in need of them, every possible assistance should be offered. Physicians and dentists returning from the armed service, especially those who intend to locate in rural communities, should be aided in equipping themselves adequately under their preference in the Act.

While the final plans for a disposal program are being worked out, rural community leaders can make some headway toward obtaining surplus war equipment and supplies by requesting their State Health Department to help gather evidence in proof of need and determine the kind and amount of supplies or equipment needed.

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United States Department of Agriculture

Hessian Fly Abundant in Some Areas

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Surveys by State and Federal entomologists show the hessian fly to be present throughout the winter-wheat belt and abundant in three distinct areas.

The first area comprises the eastern half of Nebraska and Kansas and north-central and northeastern Oklahoma. The second area covers southeastern Illinois, the southern half of Indiana, central and southwestern Ohio and the main wheat-growing sections of Kentucky and Tennessee. The third area, with quite variable infestation, includes New Jersey, Delaware, Maryland, Virginia and north-central North Carolina.

Wheat farmers in general, and especially in these areas, should observe the safe sowing dates this year. This is the date by which most of the fall brood of flies will have emerged from the wheat stubble and volunteer wheat and died.

Seasons of abundant moisture and moderate temperatures, such as the current one, favor increases in hessian fly abundance and damage to wheat. In such seasons it often produces an extra generation in the volunteer wheat which quickly appears in the stubble fields after harvest. The plowing under of this stubble and volunteer wheat before fall eliminates an important source of flies to infest the fall-sown wheat and is highly desirable wherever practicable.

A still more important means of preventing fly infestation of wheat to be sown this fall is to put off the fall sowings until the safe sowing date has arrived. Wheat sown within about two weeks after this date still has a chance to make good growth before winter. The safe sowing dates are progressively later from north to south across the winter-wheat belt and can be obtained for specific localities from the county agent or State agricultural experiment station.

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United States Department of Agriculture

In Virginia, North Carolina, Tennessee, Georgia,
Florida, Alabama, Mississippi, Arkansas, Louisiana,
Oklahoma, South Carolina, and Texas

New Ways With Peanut Seed Save Time and Cut Disease

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Based on experience this year and some earlier tests by Federal and State cooperators peanut planting next year can be further improved to the advantage of the growers, say U.S. Department of Agriculture crop specialists.

Peanuts for planting may be carefully machine-shelled (instead of tediously hand-shelled) as long as several months before planting, provided the seed is treated with a fungicidal dust.

The crop specialists found the seed could be dusted just before planting with just as good protection against diseases as if dusted right after shelling. Four different treatments gave good protection, as shown by good stands this summer: 2 percent Ceresan, Arasan, Spergon, and U. S. Rubber Chemical No. 604. It was 2 percent dust in each case.

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Hatchability of Eggs Lowered by Heavy Feeding of Soybean Meal

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Although soybean meal is a valuable source of protein in poultry feeds, it should not exceed about 10 percent of the total diet fed to hens that produce eggs for hatching. More than that may reduce the hatchability of the eggs. This recommendation is based on recent research conducted by the U.S. Department of Agriculture. Conflicting reports on the subject prompted the Department's investigation.

The experiments included tests with varying proportions of corn and soybean meal, and wheat and soybean meal. Both these combinations of feed were supplemented by sources of minerals and vitamins to assure adequate supplies of these substances in the diet of the experimental birds. Sixteen lots of Rhode Island Red pullets, each consistihg of 22 birds, were used.

As the proportion of soybean meal in the diet increased from 10 to 40 percent, the hatchability of the eggs laid by the birds decreased. High percentages of soybean meal, however, had no adverse effect on egg production, size of eggs, or body weight. The investigators obtained hatches exceeding 80 percent of the fertile eggs from corn -and-soybean diets containing 10 percent of soybean meal. In the case of wheat-and-soybean diets, pullets receiving up to 30 percent of soybean meal laid eggs having a hatchability of 80 percent or more. There was a tendency for hatchability to be less during the winter than at other seasons.

As a general conclusion the investigators suggest that the percentage of soybean meal fed to laying pullets and hens in breeding flocks should be limited to about 10 percent of the diet.

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United States Department of Agriculture

Surplus War Goods Not All For Farm

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Expressions of enthusiasm over the value of surplus war equipment to farmers brought a word of caution recently from the U.S. Department of Agriculture. The caution came in a statement from Arthur W. Turner, head of agricultural engineering research in the Bureau of Plant Industry, Soils, and Agricultural Engineering, who said farmers would be better off without a portable flame thrower, for example, or even certain types of trucks and tractors.

The farmer should get what he wants and find out where and how soon he can get replacement parts and service on whatever surplus war material he buys, the Department of Agriculture engineer warned. He advised that in buying machines or building materials, the safest way will be to get them through a local dealer whom the buyer knows and with necessary remodeling already done.

Some examples of surplus materials that Turner considers as probable good buys for some farmers are road graders, bull dozers and other dirt-removing equipment for soil conservation and irrigation work; pumps for supplemental irrigation work; tractors of several types; mobile fire fighters of the fog spray type that could be located in a small town or at a centrally located farm to provide protection for the countryside for a radius of 8 to 10 miles; refrigeration equipment that might be useful to fruit and vegetable growers and cold storage houses and small electric generator units for localities that do not have public light and power service. Surplus small hand tools, of the usual designs will of course, also be usable.

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United States Department of Agriculture

Procedures With "Soft" Corn

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Farmers in many areas of the United States are facing the possibility of another "soft" corn crop this fall, and reports to the U.S. Department of Agriculture indicate that many are already preparing to handle it in ways that will return the greatest value.

Specialists of the Department point out that in general soft corn makes better cattle feed than hog feed. If the ears are not fully mature, more of the feeding value is in the stalk than usual. The best use of a field of soft corn therefore may be to put it up as silage. Where no silo is available, the preferred plan may be to cut the crop with the binder and shock it in small shocks for feeding as fodder.

Where such corn must be harvested in the usual way—shucked or picked from the standing stalks in the field—the following practices have been found profitable:

Harvest the more mature parts of fields first if there is any choice. Corn ears with high moisture content dry faster on the stalk in the field than in the crib.

Put the soft corn in the narrowest cribs; it will have a better chance to dry out. Put the soft corn in the crib best located to get good air circulation.

Sort out the very soft ears in order to prevent spoilage.

See that as few husks and as little shelled corn as possible go into the crib. Put a screen on the elevator to sift out the shelled corn. Move the delivery spout of the elevator frequently to avoid accumulation of shelled corn and husks in certain spots. Adjust the picker to get off the maximum amounts of husks and silks.

Provide for ventilation. Air movement through the crib is necessary to keep the corn from heating and molding.

Feed the soft corn as early as possible.

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Wash., W.Va., Wis., and Wyo.

Cultivation Increases Grass Yields

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Cultivation offers a promising method of increasing production of forage from solid stands of bermuda and native bunch grass in established pastures and meadows, experiments at the U.S. Department of Agriculture Red Plains Conservation Experiment Station, Guthrie, Okla., indicate.

In the experiments, started in the spring of 1941, it was found that disking the grass sod lightly every other year in March caused an increase in the yield of bermuda grass of 26 percent. The same treatment resulted in an increase of 6 percent in yields from native grass.

The tests were made on thin or poor stands of grass. It was found that bermuda would respond to heavier disking than the common native grass. Tillage seemed to prevent the grasses from dying in the center of the clumps and increased the decay of plant residues.

The Oklahoma experiments also included a study of the effect of tillage on production of grass seed. In 1939 several grasses were seeded in 21- and 42-inch rows and in broadcast strips. The row plantings were cultivated twice with sweeps during the growing season. In general, it was found that the broadcast areas produced the most hay and row plantings the most seed.

The 42-inch rows in these tests, in fact, produced an average of 2.4 times more seed than the broadcast strips. Under favorable conditions, little bluestem grass, planted in 42-inch rows, produced 432 pounds of seed per acre. This was 78 percent more seed than was grown on adjacent broadcast areas. The purity and germination was very high in the seed from the cultivated land and as a result, only about one-half the quantity would be required in seeding a given area compared to seed from the broadcast strips.

Technicians of the Soil Conservation Service point out that grass seed production is growing in importance since demand for the grass seeds has increased as a result of wise land use and improved farming practices adopted by farmers. With rapid development of machinery for seeding and harvesting, grass production offers an opportunity to farmers and ranchers on eroded and shallow soils not suitable for arable farming.

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